S. HRG. 107–503

FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT FOR 2002

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

OVERSIGHT ON THE MONETARY POLICY REPORT TO CONGRESS PURSUANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

MARCH 7, 2002

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C O N T E N T S

THURSDAY, MARCH 7, 2002

WITNESS

Additional Material Supplied for the Record

FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT OF 2002

THURSDAY, MARCH 7, 2002

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 10:10 a.m., in room SD–106 of the Dirksen Senate Office Building, Senator Paul S. Sarbanes (Chairman of the Committee) presiding.

OPENING STATMENT OF CHAIRMAN PAUL S. SARBANES

Chairman SARBANES. The Committee will come to order.

We are very pleased to welcome Chairman Greenspan back before the Committee on Banking, Housing and Urban Affairs this morning, to give testimony on the Federal Reserve's Semi-Annual Monetary Policy Report to the Congress.

I just note, Mr. Chairman, that yesterday, as I understand, it was your birthday. We want to wish you a belated happy birthday, a day late, and many more of them to come.

Chairman GREENSPAN. Thank you very much.

Chairman SARBANES. I am sure I speak for all the Members of the Committee when I say that. It is not like the board of directors voted, you know, the chief officer was ill and they voted 5 to 4 for a full recovery.

[Laughter.]

Chairman GREENSPAN. I am glad you did not take a vote, Mr. Chairman.

Chairman SARBANES. Actually, legislation that we enacted in the last Congress has set out a framework now for the Federal Reserve to submit a report to Congress twice a year on the conduct of monetary policy and for the Chairman of the Fed to testify before the Congress. Before that, it was a matter of custom. But Senator Gramm and I worked together with the Chairman, who was supportive of the idea that at regular intervals, it would serve an important public purpose for the Fed to come before the Congress and present testimony with respect to monetary policy in open session.

Now, we alternate back and forth between the House and the Senate and the Fed testified last week before the House. So in a sense, much of the Chairman's initial readings of the economy have already been publicly given, although we have had some interesting reports since that testimony.

Yesterday, the Fed issued the beige reports from the various regional banks around the country in terms of how they see economic conditions, and we have also gotten some additional statistics.

Since you testified last Wednesday, the Commerce Department released a report which revised upward U.S. economic growth in the fourth quarter of last year. The Commerce Department report, as I understand it, revised it upward from $\frac{2}{10}$ of 1 percent growth to 1.4 percent growth, for the fourth quarter of last year. Which leads me to ask the question, what kind of economic statistics do we have, if the margin of error is going to be of that magnitude?

In other words, when trying to frame public policy, we look at an economic report and a statistic, it says, the growth in the fourth quarter was $\frac{2}{10}$ of 1 percent. So your thinking is geared to that. It is an important figure, that growth figure.

Then they come in and they do the revision and now we are told it was 1.4 percent. Well, that could lead to a different judgment, so, I intend in the question period to explore with you this economic statistics issue. I also want to make a couple other observations.

I think everyone now perceives the economy as recovering, but we expect unemployment to increase and that is, of course, the projection of the Fed. Over the last year, according to the Bureau of Labor Statistics, the number of people unemployed for more than 14 weeks has nearly doubled. Those unemployed for more than 26 weeks, the current cutoff for unemployment insurance, also nearly doubled. These figures, in my view, make a compelling case for the extension of unemployment benefits above the 26 weeks. We have consistently done that in every previous recession. We have not yet done it in this one. And I very much hope that the Congress will see its way clear to doing that in the very near future.

I just want to underscore again that we are pleased that the Chairman is back with us. *The New York Times* has a story this morning about our economic situation. It says: “The Recovery That Defied the Forecasts of Economists.” And we look forward to exploring that with you.

Senator Gramm.

STATEMENT OF SENATOR PHIL GRAMM

Senator GRAMM. Mr. Chairman, thank you very much.

Chairman Greenspan, thank you for coming before the Committee. I would just like to make a few points.

First of all, I would like to thank you for the great job you have done. I think in the wake of someone’s birthday, it is always a good opportunity to say something good about them.

I have been somewhat dumbfounded by criticism, especially the one that you did not take action to combat the overspeculation in the high-tech area.

You have to wonder where the hell these critics were when you appeared before this Committee and talked about irrational exuberance, and the whole world groaned and complained that you were talking down the stock market.

I would just have to say that I have had the opportunity to work in this town and be involved in Government for 24 years. And in that 24 years, no person has done more to promote the economic well-being of this country and the people that work here than Alan Greenspan.

I want to thank you for the great service you have rendered. As I have said on other occasions, millions of people who will never know your name have benefited from the service that you have provided.

On behalf of the 21 million of those people that I represent, I want to thank you for the great job that you have done. Capitalism grows in fits and starts. It is the very nature of a dynamic system that is based on individual initiative and that is based on new ideas, new vision, and new leadership in the corporate sector, and good and bad leadership in Government.

The duty of the Fed Chairman is to try to set a monetary policy that maximizes the economic growth that we can get and minimizes the variance about that mean.

I just want to conclude by saying that in the 24 years that I have been involved in public policy, and in the years that you have been Chairman of the Federal Reserve Bank, I do not think anybody could have or ever has done a better job of achieving a combination of those two objectives—to set the framework in which productivity and the energies of a free people can promote economic growth, and to provide a monetary policy that tries to minimize the variance about the mean that is created by these basic forces in the most dynamic free society in history. So, I appreciate the great job you have done and it has been a privilege for me to work with you.

Chairman GREENSPAN. Thank you very much, Senator.

Chairman SARBANES. Senator Johnson.

COMMENTS OF SENATOR TIM JOHNSON

Senator JOHNSON. Thank you, Mr. Chairman, for holding this hearing.

Welcome to Chairman Greenspan.

In order to expedite an opportunity to hear from Chairman Greenspan, I have an opening statement relative to some questions that I would like to present to Chairman Greenspan, as well as an observation relative to future hearings on the capitalization needs in Indian country, and I am going to submit that statement for the record.

Chairman SARBANES. Without objection, the full statement will be included in the record.

Senator Bennett.

COMMENT OF SENATOR ROBERT F. BENNETT

Senator BENNETT. I have no comment, Mr. Chairman. I will wait to hear the witness.

Chairman SARBANES. Senator Bayh.

COMMENT OF SENATOR EVAN BAYH

Senator BAYH. Thank you, Mr. Chairman. I am looking forward to hearing from Chairman Greenspan and I will save my comments for the questions.

Chairman SARBANES. Senator Hagel.

COMMENT OF SENATOR CHUCK HAGEL

Senator HAGEL. I have no statement, Mr. Chairman. I look forward to the comments.

Chairman SARBANES. Senator Carper.

STATEMENT OF SENATOR THOMAS R. CARPER

Senator CARPER. Thank you, Mr. Chairman.

Chairman Greenspan, I was listening to Senator Gramm and that was one of the nicest things I have ever heard him say about anybody.

[Laughter.]

I have known him for 20 years.

[Laughter.]

Yesterday might have been your birthday, but that is a pretty good present a day late. I think it reflects the views of a lot of us.

For about the last 8 years I was the Governor of Delaware. Near the end of my tenure as Governor, and Evan Bayh can probably reflect on this in his time as Governor. But my the last year as Governor, somebody said to me, were you the Governor when we had the ice storm of the century?

And I said, yes.

Were you the Governor when we had the blizzard of the century?

I said, yes.

He said, were you the Governor when we had the flood of the century?

I said, yes.

He said, were you the Governor when we had the drought of the century?

I said, yes.

He said to me, do you know what I think? I said, no. He said, I think you are bad luck.

[Laughter.]

Compare my record to yours. You have been Chairman of the Federal Reserve when we have had the longest running economic expansion in the history of our country. And you have been the Chairman of the Federal Reserve during what appears to have been the shortest recession, at least as far as we can recall. That is a pretty good record.

I am one who believes that we should go out on top. But I do not believe that you should go out any time soon. So, I would just suggest that to you.

You testified before us, almost 5 or 6 months ago. We were just beginning at the time to debate what kind of economic recovery package or economic stimulus package that we should consider. And your advice to us at the time was something to the effect, it is better to be right than fast. I do not know if those were your exact words, but something to the effect, it is better to be right than fast.

As it turns out, we were not fast. But in the end, I think we came out all right. And when you look back at how short the recession was and how we seem to be coming out of it fairly nicely, I am reminded of at least 3 factors that have been at play.

The first of those is the most aggressive monetary policy that I have witnessed in my lifetime that you have led. The second is just some good luck. Energy prices have dropped precipitously across the country and around the world. And the third factor is, we are doing a fair amount of deficit spending, fighting the war in Afghanistan, the war against terrorism, helping New York State and the airline industries and others and pumping a fair amount of red ink into the economy to help bolster it. All of which I think factor in to shorten the recession that we have gone through.

We have before us today, this week, probably next week, comprehensive energy legislation. It is before the Senate. A number of proposals that would help us to create more energy. A number of proposals that would help us to conserve more energy.

When we get to the Q&A's, I would hope to have an opportunity, not just to talk about monetary policy, but to revisit with you the need for us to move on that front in order to better ensure a longer lasting economic recovery in the years ahead. Thank you very much. And thank you again for your stewardship.

Chairman SARBANES. Thank you very much, Senator Carper.

Senator Bunning.

STATEMENT OF SENATOR JIM BUNNING

Senator BUNNING. Thank you, Mr. Chairman.

I would like to thank the Chairman of the Federal Reserve for testifying today. It is once again time for the biannual monetary policy report.

Generally, I agree with Senator Gramm on about 99 percent of the things that he says. Today, I do not. Mr. Greenspan, once again today, I will probably be the only skunk at the garden party. Sometimes I feel like the lone voice crying out in the wilderness about our monetary policy. I just want to make sure you know, to quote "The Godfather," it is business, not personal.

It looks like we are coming out of this recession and I am guardedly optimistic, but I am not sure that we are not in the middle of a double-dip, where we start to come out and then go right back down again. I hope that is not the case.

Mr. Chairman, one thing we have talked about before that I would like to highlight again today is my belief that we did not have to have a recession at all. I think that you unilaterally popped the bubble in the stock markets and that helped precipitate the economic downturn. And I do not think that is your job.

I also do not think it is your job to jawbone market gains and to declare that gains were a product of irrational exuberance.

No one individual should be able to influence the market so much and to be able to take trillions of dollars of market capital out of this economy.

I know many of us have gotten lumps in our throats watching our 401(k) plans go down recently. We talked about it before, how the Fed's duty is to focus on monetary policy and should not overlap into equities.

When I tried to talk to the people back home about these issues, their eyes sometimes glaze over. But these are real issues and the millions of workers who lost their job in the recession now have real problems. These folks are not just statistics.

It may surprise you that I think you do a good job when you do what you are supposed to do. I think we all acknowledge the Fed has moved aggressively over the past year. Once the Fed got going, it did respond. I also think that the Fed did a very good job after September 11 to help shore up the confidence in our markets.

You should be commended for that, and that might have helped limit the damage. But there was damage even before September 11, damage that I do not think we should have had. The Fed came to help, but it was too late in coming.

Mr. Chairman, thank you again for coming before this Committee and I look forward to digging into these issues a little bit more during the question-and-answer period.

Chairman SARBANES. Thank you very much, Senator Bunning.

Senator Stabenow.

COMMENTS OF SENATOR DEBBIE STABENOW

Senator STABENOW. Well, thank you, Mr. Chairman.

I would like to associate myself with Senator Gramm and reiterate the fact that you did come before our Committee and talk about irrational exuberance and did speak with caution about what was occurring in the economy. I appreciate the fact that the Fed has acted aggressively.

I would only say that, as a Member of the Budget Committee, as we look to the long term, that while we are seeing some glimmers of hope, and I certainly want to hear from you this morning about your view the economy and where we are going, but we certainly know that we have many challenges left in the long term as we look at the budget and the economy.

And I would have to say that while academics were debating last year whether or not we were technically in a recession, in my great State of Michigan, you only had to look to the iron ore mines in the upper peninsula or our cities in Detroit or Flint, or our farmers trying to get a good price for their products, to understand that this has been a challenging time for many families and many business people in our country. I appreciate your being here again and I look forward to your comments.

Chairman SARBANES. Thank you very much, Senator Stabenow.

Senator Crapo.

COMMENTS OF SENATOR MIKE CRAPO

Senator CRAPO. Thank you very much, Mr. Chairman.

I too want to thank you, Chairman Greenspan, for coming here for your annual report on monetary policy. And I look forward, as has been indicated by a number of the others here, to discussing a number of the issues relating to our monetary policy with you.

Just to kind of get a heads-up for where I may be headed in my questioning, as I am sure you are already aware, there is a proposal now coming up before Congress dealing with derivatives and whether we are currently governing them in the right way, and basically whether the Commodities Futures Modernization Act that we passed a few years ago has approached the issue properly.

I am very concerned that we may be addressing this issue in Congress without any hearings, without any analysis, and simply having an amendment coming up on the floor which has not had the kind of evaluation that is going to be necessary for us to make the right decision here. And I am going to be asking for your input on that issue.

With that, Mr. Chairman, I thank you for holding this hearing.

Chairman SARBANES. Thank you very much.

Senator Corzine.

COMMENTS OF SENATOR JON S. CORZINE

Senator CORZINE. Thank you, Mr. Chairman.

I would like to join with those who speak about appreciation for your thoughtful and balanced leadership with regard to economic issues in this country and your remarkable tenure. Thank you.

Chairman SARBANES. Senator Allard.

COMMENTS OF SENATOR WAYNE ALLARD

Senator ALLARD. Mr. Chairman, I just want to join my colleagues to welcome Chairman Greenspan and look forward to his comments. I have some comments that I would just like to submit for the record.

Chairman SARBANES. Very good. Mr. Chairman, we would be happy to hear from you.

STATEMENT OF ALAN GREENSPAN CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Chairman GREENSPAN. Thank you very much, Mr. Chairman, and Members of the Committee.

Since July, when I last reported to the Committee on the conduct of monetary policy, the U.S. economy has undergone a period of considerable strain, with economic output contracting for a time and unemployment rising.

Chairman SARBANES. Mr. Chairman, I think if you pulled the microphone a little closer, it would be helpful.

Chairman GREENSPAN. We in the Federal Reserve System acted vigorously to adjust monetary policy in an endeavor both to limit the extent of the downturn and to hasten its completion. Despite the disruptions engendered by the terrorist attacks of September 11, the typical dynamics of the business cycle have reemerged and are prompting a firming in economic activity. The recent evidence increasingly suggests that an economic expansion is already well under way, although an array of influences unique to this business cycle seems likely to moderate its speed.

One key consideration in the assessment that the economy is moving through a turning point is the behavior of inventories. Stocks in many industries have been drawn down to levels at which firms will soon need to taper off their rate of liquidation, if they have not already done so. Any slowing in the rate of inventory liquidation will induce a rise in industrial production if demand for those products is stable or is falling only moderately. That rise in production will, other things being equal, increase household income and spending.

But that impetus to the growth of activity will be short-lived unless sustained increases in final demand kick in before the positive effects of the swing from inventory liquidation dissipate. We have seen encouraging signs in recent days that underlying trends in final demand are strengthening, although the dimensions of the pickup remain uncertain.

Through much of last year's slowdown, however, spending by the household sector held up well and proved to be a major stabilizing force. As a consequence, although household spending should continue to trend up, the potential for significant acceleration in activity in this sector is likely to be more limited than in past cycles.

While consumer demand will have important consequences for the economic outlook in coming months, the broad contours of the present cycle have been, and will continue to be, driven by the evolution of corporate profits and capital investment.

The retrenchment in capital spending over the past year and a half was central to the sharp slowing we experienced in overall activity. These cutbacks in capital spending interacted with, and were reinforced by, falling profits and equity prices. Indeed, a striking feature of the current cyclical episode relative to many earlier ones has been the virtual absence of pricing power across much of American business, as increasing globalization and deregulation have enhanced competition.

Part of the reduction in pricing power observed in this cycle should be reversed as firming demand enables firms to take back large price discounts. Though such an adjustment would tend to elevate price levels, underlying inflationary cost pressures should remain contained.

Improved profit margins and more assured prospects for rising final demand would likely be accompanied by a decline in risk premiums from their current elevated levels toward a more normal range. With real rates of return on high-tech equipment still attractive, that should provide an additional spur to new investment. However, the recovery and overall spending on business fixed investment is likely to be only gradual.

Even a subdued recovery would constitute a truly remarkable performance for the American economy in the face of so severe a decline in equity asset values and an unprecedented blow from terrorists to the foundations of our market systems. For, if the tentative indications that the contraction phase of this business cycle has drawn to a close are ultimately confirmed, we will have experienced a significantly milder downturn than the long history of business cycles would have led us to expect.

The imbalances that triggered the downturn and that could have prolonged this difficult period did not fester. The obvious questions are what has changed in our economy in recent decades to provide resilience and whether such changes will persist into the future.

Doubtless, the substantial improvement in the access of business decisionmakers to real-time information has played a key role. The large quantities of data available virtually in real time allow businesses to address and resolve economic imbalances far more rapidly than in the past.

The apparent increased flexibility of the American economy arguably also reflects the extent of deregulation over the past quarter century.

Both deregulation and innovation in the financial sector have been especially important in enhancing overall economic resilience. New financial products, including derivatives, have enabled risk to be dispersed more effectively to those willing to, and presumably capable of, bearing it. Shocks to the overall economic system are accordingly less likely to create cascading credit failure. Despite the concerns that these complex instruments have induced—and that is an issue that I will address shortly—the record of their performance, especially over the past couple of stressful years, suggests that on balance they have contributed to the development of a far more flexible and efficient financial system—both domestically and internationally—than we had just 20 or 30 years ago.

As a consequence of increased access to real-time information and, more arguably, extensive deregulation in financial and product markets and the unbundling of risk, imbalances are more likely to be readily contained, and cyclical episodes overall should be less severe than would be the case otherwise.

However, the very technologies that appear to be the main cause of our apparent increased flexibility and resiliency may also be imparting different forms of vulnerability that could intensify or be intensified by a business cycle.

From one perspective, the ever-increasing proportion of our GDP that represents conceptual as distinct from physical value added, may actually have lessened cyclical volatility. In particular, the fact that concepts cannot be held as inventories means a great share of GDP is not subject to the type of dynamics that amplifies cyclical swings. But an economy in which concepts form an important share of valuation has its own vulnerabilities.

As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods or services even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small proportion of its asset base. Trust and reputation can vanish overnight, whereas, a factory cannot.

The implications of such a loss of confidence for the macroeconomy depend importantly on how freely the conceptual capital of the fading firm can be replaced by a competitor or a new entrant into the industry. Even if entry is relatively free, macroeconomic risks can emerge if problems at one particular firm tend to make investors and counterparties uncertain about other firms that they see as potentially similarly situated. The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion.

Another, more conventional determinant of stability will be the economy's degree of leverage, the extent to which debt rather than equity is financing the level of capital. A sophisticated financial system, with its substantial array of instruments to unbundle risks, will tend toward a higher degree of leverage at any given level of underlying economic risk. But, the greater the degree of leverage in any economy, the greater its vulnerability to unexpected shortfalls in demand and mistakes.

Although the fears of business leverage have been mostly confined to specific sectors in recent years, concerns over potential systemic problems resulting from the vast expansion of derivatives have emerged with the difficulties of Enron. To be sure, firms like

Enron and Long-Term Capital Management before it, were major players in the derivatives markets. But their problems were readily traceable to an old-fashioned excess of debt, however acquired, as well as to opaque accounting of that leverage and lax counterparty scrutiny.

Swaps and other derivatives throughout their short history, including over the past 18 months, have been remarkably free of default. Of course, there can be latent problems in any market that expands as rapidly as these markets have. Regulators and supervisors are particularly sensitive to this possibility.

Derivatives have provided greater flexibility to our financial system. But their very complexity could leave counterparties vulnerable to significant risk that they do not currently recognize, and hence these instruments potentially expose the overall system if mistakes are large. In that regard, the market's reaction to the revelations about Enron provides encouragement that the force of market discipline can be counted on over time to foster much greater transparency and increased clarity and completeness in the accounting treatment of derivatives.

How these countervailing forces for stability evolve will surely be a major determinant of the volatility that our economy will experience in the future. Monetary policy will have to be particularly sensitive to the possibility that the resiliency that our economy has exhibited during the past 2 years signals subtle changes in the way our system functions.

Although there are ample reasons to be cautious about the economic outlook, the recuperative powers of the American economy, as I have tried to emphasize in my presentation, have been remarkable. When I presented our report on monetary policy to this Committee last summer, few if any of us could have anticipated events such as those to which our Nation has subsequently been subjected.

The economic consequences of those events and their aftermath are an integral part of the many challenges that we now collectively face. The U.S. economy has experienced a substantial shock, and, no doubt, we continue to face risks in the period ahead. But the response thus far of our citizens to these new economic challenges provides reason for encouragement.

Thank you very much, Mr. Chairman. I would appreciate if my full remarks were included for the record.

Chairman SARBANES. The full statement will be included in the record, without objection. And thank you for your testimony.

Since the opening statements, we have been joined by Senators Dodd, Ensign, and Akaka. I will yield to them now for any opening statement they may have before we go to questions for Chairman Greenspan.

Senator Dodd.

COMMENT OF SENATOR CHRISTOPHER J. DODD

Senator DODD. Mr. Chairman, I just ask unanimous consent that my statement be included in the record and I look forward to the questions.

Chairman SARBANES. Very good.

Senator Ensign.

COMMENTS OF SENATOR JOHN ENSIGN

Senator ENSIGN. No opening statement, Mr. Chairman.
Chairman SARBANES. Senator Akaka.

COMMENT OF SENATOR DANIEL K. AKAKA

Senator AKAKA. Mr. Chairman, I have a statement and I will submit it for the record.

Chairman SARBANES. It will be included in full in the record.

Mr. Chairman, I would like to come back to this two-tenths of 1 percent growth figure that the Commerce Department gave us as the initial figure on fourth-quarter growth, revised to 1.4 percent.

Now, I take it that is a revision of sufficient magnitude and consequence that we ought to have some concern about the accuracy of our economic statistics.

Chairman GREENSPAN. Well, the cause of that, Mr. Chairman is that the Commerce Department, the Bureau of Economic Analysis, chooses to make an early estimate of the gross domestic product for a quarter just passed before it has all of the important information. In this particular case and, indeed, in all of these advanced reports, two major items of exclusion which are never available at the point at which they make the earliest estimate, are, one, inventory change for the last month of a quarter and, two, the trade figures for the last month.

Both of those numbers can be really quite difficult to judge. And what happens in the early data is that technicians at the Department of Commerce endeavor to make their best judgments as to what those numbers are likely to be.

They publish their judgments, so it is not a black box which people who are trying to evaluate the numbers are unable to understand. And since those of us who endeavor to follow the GDP as it moves from one month to the next in its quarterly format are able to judge as the new monthly data comes in, whether in fact the numbers published—the last published set of numbers by the Department of Commerce—are going to be revised.

Most people can reasonably judge what the nature of the revisions is going to be because they know what plugged numbers the Department of Commerce put in for data they did not have.

Now, to be sure, that does create significant changes, as you just cited a particularly large one. The question would be, would we be better off if we did not have the advanced report? And I suggest the answer to that is no, it does help. But I do think it is important to point out that these numbers are subject to significant revision. Rarely do they give an impression of the economy which is false.

Chairman SARBANES. Presumably, they might have some impact on consumer outlooks and consumer confidence because I want to move now to consumers in this economic situation.

Generally speaking, consumer demand has held up pretty well, as I understand it. It is in fact what has cushioned the downturn. The question then becomes whether it is been used up, in a sense.

In previous sessions, when consumer demand slackens, it then picks up as we move into a recovery period and provides a boost for the economic recovery. That may not be there this time. What is your view on that question?

Chairman GREENSPAN. Well, I think that is an important point to make, Mr. Chairman.

In past periods of significant contraction, when inventory liquidation was a major factor pushing the economy down, consumer durable demand and homebuilding also tended to be much lower. And that was largely because interest rates at the top of the cycle were usually relatively high and that suppressed demand for housing and durables.

When we got to the bottom of the cycle, as inventory liquidation started to slow and turn the economy around, there was an unmet demand for a number of motor vehicles and other consumer durable goods and new homes. And they tended to come back together and as a consequence of that, my recollection is that the average rate of increase in the first year after a recession ended has been something like 7 percent.

This is almost certainly not going to be the case this time. And one of the reasons, as you point out, is we never went down and, consequently, the ability to go back up is limited because no matter how one looks at it, both motor vehicles have been doing really quite extraordinarily well, as well as homebuilding.

So that there is very little upside potential to carry through. And that is the reason why I made my remarks in my formal text about the need for final demands to kick in prior to when the obvious significant increase in economic activity that is occurring now as a consequence of inventory liquidation slowing down finally dissipates.

Chairman SARBANES. Yes. Well, my time is expired.

Senator Gramm.

Senator GRAMM. Thank you, Mr. Chairman.

Alan, I have three short questions and then a longer question. Let me try and give them to you briefly, and if you could just give me a short statement on them.

As you know, there is an effort afoot in both the House and the Senate to raise the level of deposit insurance. Could you tell me where you stand on that?

Chairman GREENSPAN. We just recently had letters from both Chairman Bachus and Congressman LaFalce with respect to where the Federal Reserve Board is. What we have done is essentially indicated that for most of the bill which is being considered in the House, we find ourselves as a Board in agreement.

We do not, however, subscribe to any change in the level of coverage of deposit insurance because all of our analysis has indicated the need for it is clearly not evident in the data that we have.

And obviously, because there is some indication coming from the Federal Deposit Insurance Corporation that losses will be rising and, indeed, the so-called ratio of reserves to deposits that is relevant, as I recall came down to 1.27 at the end of the fourth quarter, and there is a statutory requirement to do things at 1.25.

So it strikes me that if we move to any significant expansion of coverage, we are going to have to start boosting premiums. And I am not sure that that in total is a particularly useful activity.

But most importantly, I think that we have to be very careful about the extent to which we create the levels of subsidy within our system to make certain that they are contained so that the probabilities of systemic risk which come as a consequence of them, are also contained.

Senator GRAMM. Okay. Let me go to the next two questions.

We passed a security litigation reform bill, I believe in 1995. We had a series of lawsuits where one big law firm had about 80 percent of the business and they literally had a boilerplate complaint. And if a company put out a prospectus on what it expected to do in the future, and they did better, it took that boilerplate thing and filed a lawsuit. If it did not do as well, it filed a lawsuit.

What we tried to do is tighten up on the process, bring all those lawsuits to Federal court since the securities market is a national market.

There is an effort underway to try to repeal that provision or substantially cut back on it. I would like to get you to comment on that. And also, the effort that might be underway to regulate energy derivatives and energy swaps.

Chairman GREENSPAN. Senator, as I recall, when the original discussions of that legislation a number of years ago developed, we did not, I think, have a position on it as such, but I personally thought it struck me as a sensible idea because we have to be very careful in the functioning of our financial markets that we do not get swamped with lawsuits or challenges to the form of corporate governance and the whole structure of security issuances, beyond what is necessary to maintain the soundness and stability of the system.

I have not been familiar with how successful, or lack thereof, that has been, so I cannot really comment on what has occurred. But certainly, the original principle strikes me as the correct one. And unless the evidence to date has indicated that that is wrong, I would presume that, at least from my own personal view, I would not change.

With the issue of energy derivatives, as you may recall, in the Commodity Futures Modernization Act of 2000, we went over that issue in very considerable detail. The main issue involved was to recognize the extraordinary importance to improving our financial system of the whole derivatives market. And we were concerned about a numbers of things which included the uncertainties with respect to whether or not they were legally binding.

And we came up with a bill which, I think in retrospect, was an exceptionally good bill. What it did with respect to energy derivatives—or I should be more exact—over-the-counter energy derivatives, was to recognize that public policy essentially focuses on three issues in this respect. First is consumer protection. The second is anti-manipulation. And the third is pricing systems which are not opaque so that we can understand what is going on.

In the second two, the CFTC still has authorities to act against manipulation and act against systems in which it appears that pricing is not being appropriately indicated to the marketplace.

The issue of consumer protection does not, or did not, in our view, apply—I am talking about the President's Working Group, as you may remember. The President's Working Group said it did not apply to transactions amongst professionals.

Now, it was crucially important that we allow those types of markets to evolve amongst professionals who are most capable of protecting themselves far better than either we, the Fed, the CFTC, or the SEC could conceivably do.

The important issue is that there is a significant downside if we regulate where we do not have to in this area because one of the major and, indeed, the primary, area for regulation and protection of the system is counterparty surveillance; that is, the individual private parties looking at the economic events, looking at the status of the people with whom they are doing business, with whom they have this derivative transaction. We have to allow that system to work because if we step in as Government regulators, we will remove a considerable amount of the caution that is necessary to allow those markets to evolve.

And while it may appear to be sensible to go in and regulate, all of our experience is that there is a significant downside when you do not allow counterparty surveillance to function in an appropriate matter.

Chairman SARBANES. Senator Bayh.

Senator BAYH. Thank you very much, Mr. Chairman, and Chairman Greenspan.

I would like to begin by asking two questions regarding productivity growth, which, as you know, is so critically important to our economic and fiscal estimates.

There was an excellent paper prepared by Dale Jorgensen of Harvard, Monhoe and Kevin Sterow—I hope I pronounced that correctly—regarding the methodology of productivity growth forecasts.

Their conclusions, if I could just summarize them, were that the productivity revival of the 1995 to 2000 period remains largely intact, that information technology investments were critical to that revival, and that going forward over the next decade, they project only some slightening of that productivity growth.

This is an important analysis. I was wondering if, and you and I have chatted about this, there has been some work at the Fed.

Any update on their thesis that, to my understanding, the difference between state-of-the-art technology, the competitive advantage that it affords, and mean technology is expanding, giving added impetus for investing in technology, which will keep this productivity growth advancing.

Chairman GREENSPAN. Senator, that is a crucial issue which a number of people are beginning to look at. There have been certain papers which suggest, indeed, that there has been an opening up of the difference between what you might say are the ultimate cutting-edge technologies and the average application that exists in the economy.

It is too soon to conclude that. Indeed, if the conclusion is accurate, obviously, it says a great deal about the potential for the future. But I do not think we have gotten to the point at this stage where we can confirm that that is the case.

The general notion, however, that something fundamentally important happened in the last 4 or 5 years is continuously being reaffirmed quarter by quarter and in the most recent period because, even as I indicated at the peak of the acceleration in economic activity and of productivity growth, we did not at that point have a real test of how the structure of productivity would respond when the economy weakened.

Now, we have been through a period like that and the result is, if anything, somewhat suspiciously too strong, in the sense that, as you may know, this morning, the Department of Labor issued an estimate of productivity growth for the nonfarm business sector in the fourth quarter of last year and they revised the number up to 5.2 percent at an annual rate.

Senator BAYH. Remarkably robust under the circumstances.

Chairman GREENSPAN. Not only remarkably robust, but also very unlikely, if I may put it that way.

Senator BAYH. That gets to your questions, Mr. Chairman.

Chairman GREENSPAN. But what it does suggest is that, if you smooth through the noise in the data, we are getting increasing confirmation that something fundamentally important did happen in the latter part of the 1990's and it does give us some confidence projecting forward into the future.

Senator BAYH. Certainly very good news going forward.

Mr. Chairman, I would like to ask if you have an opinion on an accounting issue that may indirectly, have some impact on productivity in the longer term, specifically with regard to the treatment of stock options.

We had some leaders in the high-tech community on Capitol Hill yesterday. This is a matter of great concern to them. Their argument is that the change in the treatment of stock options will limit their ability to attract and retain high-quality people and that requiring these to be expensed will affect their income statements, their ability to attract capital, that even in the event that the options turn out to not be worth what they originally were calculated at being worth.

So there is a great deal of concern. Innovation is so important to the new economy, growing productivity growth rates. Do you have an opinion about the treatment of these options?

Chairman GREENSPAN. I can speak for myself, but I cannot speak for the Federal Reserve Board because I have not discussed it with them.

The question basically is that stock options are a replacement for cash compensation. And if they are not that, what are they, as I think my good friend Warren Buffet once said.

The truth of the matter is that if you do not expense the granting of stock options or their realization in the income statement, as indeed, we are required in our tax forms, then you will get a pre-tax income which is higher than one can argue you really had and the estimates by the Federal Reserve suggest that somewhere in excess of 2½ percent of the growth rate per year in earnings of major corporations is the result of this nonexpensing of stock options.

I do not deny that earnings would be lower if you expensed them. I do not deny that there may be greater difficulty in attracting capital with presumed lower earnings than you would otherwise have. I do not disagree with the fact that if the company has lower earnings, that people may not be attracted to come to the firm. But there is no reason why you cannot issue stock options if you wish to attract people. It does not affect them. If the stock price goes up, they get the rewards.

The only thing that is involved is the issue of, the question, is income being properly recorded? And I would submit to you that the answer is no. I do not understand why there is an issue here of great moment. The data does show that when you have a significant amount of stock options which are not expensed, and the higher the proportion that that affects pre-tax income, the greater the volatility of the return from the stock.

So the answer is yes. People argue that they are likely to get less capital, but that is only if the people who are lending to them just do not know how to count because these data are reported in footnotes. It does not require very much to figure out what part of the pre-tax income of any corporation which is issuing stock options is the result of stock options in lieu of compensation of employees.

So the only issue here is, if you gain something, you are gaining something because people who are giving you something just did not quite understand what in fact they were reading.

It is their fault. They should be doing the calculations. But nothing happens in the real world with respect to this question because for tax purposes, you have to expense it. If you issue options and the stock prices goes up, the effect of what the individual employee gets is there, wholly independent of what the company did with respect to the issue of earnings.

Now if the stock market does not know what is going on and it overprices the stock because the earnings numbers are bigger, that is just because securities analysts are lazy.

Senator BAYH. Thank you, Mr. Chairman.

Chairman SARBANES. Senator Bennett.

Senator BENNETT. Thank you, Mr. Chairman.

Chairman Greenspan, I assume, given all of the other things that you read, you have been familiar with the three columns now that have run in *The Wall Street Journal* by Robert Bartley, addressing the issue of whether or not spending stimulates the economy, deficits stimulate the economy, surpluses stimulate the economy, and for his final effort, marginal tax rates stimulate the economy.

I find this series very interesting, not only because I know Mr. Bartley and have respected his opinion over the years, but also because these are the fundamental questions that we as policymakers have to face as we address fiscal policy.

Should we encourage surpluses at the expense of everything else? Should we encourage deficits in the name of stimulating the economy? Should we say that as long as they are within various ranges, deficits and surpluses do not really matter?

And the most important thing to focus on is the tax level.

Right now, as a percentage of GDP, the tax burden is the highest it has been probably in history. And as you look ahead into the future, with your crystal ball, admittedly, clouded, but probably a little less clouded than ours, would you comment on this controversy about the impact of the size of a deficit, the impact of the size of a surplus, and the impact of the overall tax burden on the prospect for future economic growth?

Chairman GREENSPAN. Well, first, Senator, let me just comment that the ratio of total Federal taxes over GDP is indeed at a record high, or at least it was up until very recently. We have to be a little careful because the GDP, the denominator of the ratio, does not include capital gains, as you know.

Senator BENNETT. Yes.

Chairman GREENSPAN. Yet a significant part of the tax receipts in recent years has reflected either the capital gains tax, which has been quite substantial, or the issue I was just mentioning with Senator Bayh, namely, a very substantial amount of tax receipts that occur as a consequence of the exercise of stock options.

And both of those items have been particularly large parts of the numerator of that ratio. I have forgotten what happens if you take them out, but it does look a good deal less burdensome.

Nonetheless, the issue of taxes rising because, as real incomes rise, they gradually get up into ever-increasing tax brackets, so, indeed, one has to be very careful about that. And I must say I find myself in substantial agreement with Mr. Bartley on the question of marginal tax rates and I think it is important. If economic growth is a particular purpose, which it should be, of economic policy, then I think that is an obviously critical issue.

The questions of when you have surpluses or deficits and the like, is a far more controversial issue because I suspect that it varies depending on the circumstances.

I also come out pretty much where he does on most of those issues. But in certain places, I do not. On the issue of surpluses in the most recent period, I think they have created some value, especially in reducing long-term real interest rates, and I think that has been an effective factor in the last several years.

But there is no question that it is important that in approaching various different forms of economic policy in Government, that we have answers to those questions.

As you know, Senator, most economists would agree that, in evaluating the effects of various different fiscal policies, it would be far better to use what we call dynamic scoring, that is, the ability to get the interaction of the effect, as well as the initial impact.

The only problem is that the interaction is a function of the particular model you are using, and no one can quite agree on what the appropriate model is. So that we have fallen back to a static analysis, which we can all somehow agree on as the first stage of the effect. But the questions that Bob Bartley is raising get into all of these questions. And while we do not choose to address them, that does not mean that we are not in fact making judgments about them.

In certain instances, we are making very specific adjustments. In our budgetary analysis, we are saying that the secondary impacts of tax and spending programs are zero. Now, we know that to be false. But we are making those judgments because we have no alternative.

So, I think it is an issue which is not going to get resolved easily, and probably requires continuous evaluation. But I think that Mr. Bartley is raising some of the crucial issues which essentially are closely involved with the type of decisionmaking which this body must make.

Senator BENNETT. Thank you.

Chairman SARBANES. Thank you, Senator Bennett.

Senator Stabenow.

Senator STABENOW. Thank you, Mr. Chairman.

Again, Chairman Sarbanes, we appreciate your comments.

I was particularly interested in your raising the issues of conceptual capital versus physical assets. I have had concern for some time particularly, again, coming from Michigan, where we turn those concepts into physical assets.

We are seeing more and more relationship between Silicon Valley and Automation Alley, which is a high-tech manufacturing corridor in Michigan.

I am concerned that we keep that balance. I appreciate what you have raised, not only the positives of concepts, but also the negatives that occur from that. I think that is an important issue for us long-term in the economy, as we move forward, and particularly, coming from a State that brings iron ore out of the ground and makes steel and all the implications that relate to having physical assets, which I think are a foundation for us in the economy. Many of those involved in those industries have raised a concern about credit standards that I wondered if you might speak to.

I understand that lenders are tightening their terms and I am concerned about the negative impact, particularly for our smaller businesses, as we come out of the recession.

I am wondering if you think that the higher credit standards are justified or if they are an overreaction or a misperception of the current economic risks.

Chairman GREENSPAN. You are quite correct. Our surveys do pick up on that evidence of tightening. And it is clearly appropriate in many respects, if not most respects, because the balance sheets of borrowers have deteriorated over the last 18 to 24 months. Profit margins are down quite significantly. So the actual creditworthiness of borrowers has come down.

There has, however, been no evidence of anything remotely resembling the credit crunch that we had a decade ago, where you just could not get a loan out of a commercial bank no matter what your creditworthiness was, at least in some cases.

The data that we have do not suggest that there is a credit crunch in small business, but undoubtedly numerous small businesses are having difficulty. One hopeful sign is that the economy appears to be turning and credit tends to come in with a lag. So that to the extent that numbers of firms, especially small firms, are finding difficulty in getting the credits they need at the prices they can afford to pay, that is likely to change to the better.

Our commercial banking system has come through this period really quite effectively. It bodes well to the future of the system as a whole.

Senator STABENOW. I wonder if you might also address another issue of concern to our U.S. manufacturing sector. Glenn Hubbard, the Chairman of the President's Council of Economic Advisers, noted in a speech that U.S. manufacturing jobs and our manufacturing exports have been badly hurt by a strong dollar.

I know we are particularly concerned about the excessively weak yen. And I wonder if you would comment if you believe that that is in fact a serious issue and what you would comment about that.

Chairman GREENSPAN. When your dollar strengthens, as ours has, clearly, it creates lesser competitive capability for exporting. And to the extent that that impacts on the job market it is a negative in that respect.

But manufacturing jobs have been falling for quite a long period of time, not because manufacturing is disappearing, but because productivity, output per hour in manufacturing plants, has really accelerated and they are doing an exceptional job. So as a percent of the GDP, there has not been all that much change in manufacturing. As a percent of the total workforce, manufacturing jobs have been falling fairly appreciably for a while.

One can hardly argue—I should say, argue against—gains in productivity. The vast majority of those people who have left manufacturing jobs obviously have gone into other parts of the economy because, as you know, up until fairly recently, the unemployment rate had gotten to 4 percent and less, which has been really quite a remarkable performance indicating a major improvement in labor market flexibility.

Senator STABENOW. I wonder if I might just quickly ask one more question. That is, regarding the Treasury rule to allow banks into the real estate, brokerage, and managing business. I am wondering when you see a rule or what is happening in terms of the process of considering that regulation?

Chairman GREENSPAN. Well, Senator, as I am sure you know better than anyone, we have had a flurry—I should say a deluge—of letters, comments and the like, on this issue of the question of real estate brokerage.

We are in the process of processing the data, all of the information, as we are required to do, and at some point, hopefully sooner rather than later, we will be able to address the issue and in working with the Treasury—as you know, the statute requires a joint decision on this—we will be coming forth with some conclusion.

Senator STABENOW. Thank you.

Thank you, Mr. Chairman.

Chairman SARBANES. Thank you very much, Senator Stabenow. Senator Bunning.

Senator BUNNING. Thank you, Mr. Chairman.

Last year, Chairman Greenspan we were in a recession. I think that it started early in the fall of 2000. I let you know my thoughts then, that we should start loosening our monetary policy. I continued to argue that we should have loosened it all the way through the fall.

The Fed finally did start seriously loosening it in January. But by then, the damage had been done. I have been highly critical of the Fed on the recession for two reasons.

First, I think your attempts to pop the Nasdaq bubble greatly contributed to the recession. And I think the word you used about a year and a half ago was something about a wealth effect. I do not think it is the place of you or the Federal Reserve to pop these so-called bubbles.

Second, I believe the Fed acted entirely too slowly in responding to the signs of an economic slowdown. I believe that this past recession could have been lessened, if not avoided, and a lot of people would not have lost their jobs.

I also think that part of the problem is you need to have more independent voices at the Fed who will stand up and say when they think you are wrong on issues. Nobody needs the people around them to simply agree with everything they say.

I think the last two nominees to the Board—Mark Olson and Susan Schmidt Bies—will be independent voices who will stand up and not be afraid to tell you when they think you are wrong. I can tell you this, I would not be as effective as I am as a Senator if I were surrounded by yes men and women.

I am hopeful that the President nominates more independent voices for the two current vacancies on the Board. And I think that we should fill those vacancies as quickly as we can so that the Board has a full complement of members.

I am not privy to the actual discussions of the meetings of the Board, so I might be wrong about the independence of the Board members. But I doubt it. Now to the question. Do you think the stock market gains this week and last Friday are products of irrational exuberance, or are they normal market fluctuations?

Chairman GREENSPAN. Senator, I do not comment on stock market fluctuations in the short term. The issues that I raise really relate to long-term questions. If I may, can I comment on your various different points?

Senator BUNNING. Absolutely.

Chairman GREENSPAN. Because I think I will endeavor to get to your conclusion as best I can.

As I think I indicated to you previously, I do not think we did pop the bubble, as you may put it. We did raise interest rates in 1999, and the reason we did is real long-term rates were beginning to rise because the economy was beginning to accelerate. Had we not raised the Federal funds rate during that particular period, we could have held it in check only by expanding the money supply at an inordinately rapid rate. In other words, suppress the demand, or I should say, hold interest rates down by flooding the market. We did not have an alternative to do that.

Senator BUNNING. But you squeezed the money out of the market and therefore, you forced all those Nasdaq companies, because they could not go to the market, where they got their money, to look somewhere else.

Chairman GREENSPAN. I do not think that is factually accurate, Senator.

Senator BUNNING. Well, we will disagree on that.

Chairman GREENSPAN. The wealth effect is basically an analytical issue which refers to the fact that asset price changes do affect economic activity. Since it is the function of monetary policy to try to maintain long-term, sustainable, economic growth, by not evaluating factors as important as the so-called wealth effect on economic activity would be a dereliction of our duty, in my judgment.

Senator BUNNING. Is it your duty, then, to drive the wealth effect and make sure that there is no wealth effect?

Chairman GREENSPAN. No, on the contrary. I have said innumerable times in years past that when I raised the question in 1996 as to whether monetary policy ought to address asset price changes, I subsequently concluded, and I think reported to this Committee, that it would be inappropriate for the central bank to be overriding the decisions of millions of investors in making their value judgments. I do not think, one, we ought to do that. I do not think that we did do that.

Senator BUNNING. But, sir, when you say something that is contrary or detrimental to the market in a public statement, the market immediately reacts. If you are positive in your statements about what is going to happen in the future, the market reacts. Should one person have that power?

Chairman GREENSPAN. Well, Senator, the reason I did not answer the question as you put it is it probably could have an effect on the market in addressing the question about the recent stock price change.

Senator BUNNING. Are you telling me what you have said today is exactly—I read your statement twice that you gave the House. It is almost the exact same statement that you gave the House.

Chairman GREENSPAN. Correct. What I am trying to say, basically, is that we should not be, and do not, as best I can judge, endeavor to address asset valuations and try to change them.

What we do is take those changes into consideration as they impact on the economy and review monetary policy as essentially a vehicle to try to alter the liquidity of the system in a manner to maximize economic growth.

And we do not address the issue of trying to change the wealth effect. We respond to the wealth effect. We do not try, nor do I think we would ever succeed, in changing the wealth effect, or I should say, asset prices, because human nature being what it is, people will valuate things one way or the other. And I do not think monetary policy in the long run actually could be effective even if we chose to do it.

Senator BUNNING. Well, we have a major disagreement on that.

Chairman GREENSPAN. I agree. That I do agree with, Senator.

[Laughter.]

Chairman SARBANES. Senator Corzine.

Senator CORZINE. Thank you, Mr. Chairman.

I would like to turn a little bit to the current economic circumstance. If I read the papers right and hear from my colleagues, there is an additional stimulus bill making its way through the House tied to the extension of unemployment insurance benefits, $43 billion or so of additional tax cuts. Is the economy in need of additional stimulus, in your view?

Then there is a second concern that I hear—actually, I think it is reflective of maybe a difference in what we hear from corporate executives out in the world about the state of the economy relative to the reported statistics, which is somewhat in dissonance.

But it has to do with the issue of terrorist insurance and whether that is having significant impact in our real estate and construction markets, and whether it is having impact in our lending markets, and whether you think there is need for us to act in that area. I would love to hear your comments on that, and come back to counterparty surveillance issues, if we have time.

Chairman GREENSPAN. On the issue of stimulus, as I have stated before the House and, indeed, before the Senate Budget Committee at an earlier time, as you may recall, if we are dealing with an outlook which seems to be reasonably positive, as the rate of inventory liquidation gradually goes to zero, then the key question is: will final demand kick in to keep the economy recovering after the inventory stimulus, so to speak, dissipates?

If the conclusion is that it might not, then one can argue a stimulus program is a credible type of thing to try to do, largely because it rarely is anything useful in the short run because we can never implement it in time. But what we are talking about is 4 to 6 months from now, to be effective.

As I indicated before the House, I doubt very much whether the economy, if it did not get a stimulus, would sag. And I think the crucial issue that the Congress has to make a judgment on is whether the cost to the budget and to the level of debt that is created as a consequence is a useful fiscal initiative.

We do of course have the problem that the one fact we know with almost reasonable certainty is the huge demographic bulge of retirees that is going to occur at the end of this decade. And that is going to require that we have higher savings rates, higher capital investment, higher productivity, to make certain that the retirees can maintain a standard of living at the same time that the workers at that time continue to enjoy an increase in their standards of living.

So as the years go on in this decade, we are going to become increasingly aware of the oncoming big bulge in retirees and the fiscal policies that that is going to require on the part of this country.

Senator CORZINE. Do I hear you saying that we are getting late in the game?

Chairman GREENSPAN. The clock is ticking. And in any fiscal stimulus program that is started, you have to get that into the policy mix.

With respect to the question of corporate executives being, as I think you put it, more subdued than the forecasters, I think they are just looking at a very low level of corporate profits, and that is creating a significantly less buoyant view of the outlook than that which most economists, even those who work for the corporate executives, have.

On the issue of terrorist insurance, as I said at the House Committee last week, I do not think that it is possible to get any realistic view of what a probability distribution of the costs of a terrorist act will be.

We know roughly what earthquakes can do. We know that it is extraordinarily unlikely that you get much above 8, 8½ on the Richter Scale and you can sort of figure out what the costs are. We do not have that ability on a terrorist act. And I am of the opinion that we probably ought to endeavor to reinsure such risks with some deductibles, that it may well be, as I said in the House last week, that if the Congress merely indicates that it perceives that terrorist acts will be essentially reinsured by the American taxpayer, how that is done can be left to after the fact because it is a very tricky issue.

The question is, has it had an effect on real estate? Some. It is too soon to get a sense of any large numbers. Whatever the effect has been to date clearly is not yet showing up as a significant negative in the economy. But clearly, nonresidential building is being affected and certainly large projects are essentially going forward self-insured, which is a risky issue.

It means that the insurance premium essentially, as you well know, ends up in the interest rate premium that these projects are required to pay to get funded.

Senator CORZINE. Have you seen that factor show up in rates and/or spreads in any of the marketplaces?

Chairman GREENSPAN. I do not really think we see it as yet, and it would really have to be an analysis of individual projects because, obviously, the probability of a terrorist attack in the vast proportion of the area of the United States is very low. And one would presume that the premium in those areas would not show up significantly.

Unless you took a look at the self-insurance of individual projects in areas where the risks of terrorist acts are much higher, I do not think you get a good sense of what the cost of self-insurance is.

Chairman SARBANES. Good. Senator Crapo.

Senator CRAPO. Thank you very much, Mr. Chairman.

Mr. Greenspan, you have already answered my question in a general sense in response to Senator Gramm's inquiry about the derivatives issue.

I take it from your answer that you do not believe that it was a mistake to exclude certain derivatives transactions from regulations under the Commodities Futures Modernization Act?

Chairman GREENSPAN. I do not. I think that Act, in retrospect, was a very sound program passed by the Congress. I do not see any particular need to revisit many of the issues which were discussed at length at that time.

Senator CRAPO. Some have said, or at least have tried to establish some kind of a link between the failure to regulate these types of derivatives transactions and the Enron collapse.

Do you have an opinion on whether the failure to regulate these specific types of derivatives transactions in energy is linked in some way to the Enron circumstance?

Chairman GREENSPAN. Well, Senator, obviously, a lot of people are looking at this and it is quite conceivable that things will be unearthed at some subsequent date which will draw linkages.

At the moment, I have not seen any. Clearly, what essentially undercut Enron were the special purpose vehicles which were off-balance sheet constructs which happened in certain respects to use derivatives as a means for trying to create, which was what the program was, namely, to obscure some of the underlying debt and potential losses in the firm. They could have used anything else to do the same thing.

Derivatives are a very effective financial instrument for good or ill. They in and of themselves are not anything that is potentially any more dangerous than the underlying assets which they are derived from.

Remember that the derivatives were used in the Enron case as an end-user, not as a dealer, and that Enron Online, which is the derivatives dealer, has apparently not had any particular problems, except, obviously, that they have lost a lot of people. But, as you know, that particular part of Enron was sold and had value.

So, you have to distinguish where the nature of the problem that created the collapse and what I call capitalized reputation in Enron came from.

And at least to date, it does not appear to be—I will put it this way: derivatives do not appear to be a smoking gun. It is conceivable to me that we will find that the statement I just made is false on later evaluation of information we as yet do not have. But on the basis of what I have seen, I have seen none that suggests that that is a problem.

Senator CRAPO. And on sort of the flip side of that question, has the utilization of derivatives generally in the marketplace been a positive force in financial markets?

Chairman GREENSPAN. Well, Senator, as I indicated in my prepared remarks, it is very difficult to make judgments as to what the effect of individual instruments are on the economy overall, but having observed this phenomenon now for a number of years, it does strike me as being a major contributor to the flexibility and resiliency of our financial system. Because remember what derivatives do. They shift risk from those who are undesirous or incapable of absorbing it, to those who are.

Now that as an economic phenomenon is something which is always unequivocally positive. The issue is rarely, if ever, whether that instrument is a useful instrument. Obviously, if it were not you would not have the vast demand that has occurred for this type of hedging procedure, whose basic purpose is to lower risk, not increase it.

And I think it has been a major factor in the resiliency of our economy and maybe a major player in why the contraction that we have just been through was so mild, why the financial system did not breach under the pressures of, one, the sharp decline in asset prices, and two, the events of September 11.

I also indicated in my prepared remarks that, clearly, when you are dealing with very sophisticated instruments such as this, there are risks of things going wrong. But I cannot argue that you can therefore say it is the derivative that did it. It is the fact that they were misused or something about them did not work very well. But there is nothing inherently negative about them because, were that the case, the extraordinary small default record of these instruments, which is very low, would not be the case. And two, the demand for them year after year expanding at a dramatic rate, would not have occurred.

Senator CRAPO. Thank you very much for these good insights.

Chairman SARBANES. Thank you, Senator Crapo.

To complete the first round, just so Members know where they are, I have on this side, Senator Dodd, Senator Akaka, and then Senator Miller. And Senator Allard, you are next on this side.

Senator ALLARD. Yes, Mr. Chairman. Do you want me to go now?

Chairman SARBANES. No, because we just went from here.

Senator ALLARD. Right.

Chairman SARBANES. Senator Dodd.

Senator DODD. Thank you, Mr. Chairman.

Welcome, Chairman Greespan. It gets said often enough, but it deserves repeating—you have done a terrific job and we are all very grateful for your leadership.

The fact that we are coming out of this recession, as brief as it is, I think you and your staff at the Federal Reserve can take a great deal of credit for what you have done over the last year or so, particularly the rate cuts.

Let me, if I can, I will try to lump my questions together, too. It will give you more of a chance to respond than to listen to the question.

I appreciate Senator Corzine raising the terrorism insurance issue. We did a lot of work on that a number of months ago. But I think your testimony helps this morning give us a better feel and flavor for that issue. It is one we need to watch and there will be an effort, I know, to try and probably revive that issue.

Senator Stabenow raised the question of international. We have had either flat GDP rates, in Great Britain, zero, in Germany, I think, Japan, Argentina have problems.

I would like to know if you could take the long-term rate issue, given the gap that exists between short- and long-term rates, and then tieing in the question of what is going on internationally economically, add to it, if you will, some of the projections that we are getting. The CBO's numbers indicate a budget deficit substantially different from what the President indicated only a few weeks ago. They are talking now about $121 billion versus $80. And a cumulative deficit over the next 10 years, excluding Social Security, of $1.8 trillion. I wonder if you might shed some light on to what extent that ought to be a concern in terms of those of us here as policy-setters. That is number one.

And then jumping to the issue—and I am not going to ask you to comment on specific bills because that is not a fair question for you. But pension reform, obviously in light of Enron, is going to be a major subject of debate. Another committee on which I serve may markup a bill as early as next week. Senator Corzine and Senator Boxer have offered ideas in this area.

We are going to do some things in this area and I think you have raised the issue of unintended consequences of some actions. I wonder if you might comment here. I do not know if you are familiar with the bill that Senator Kennedy has proposed dealing with employer contributions, defined contribution, defined benefit plans, and so forth.

But rather than getting it out in the details of a bill, I would like to hear you comment on pension issues, the numbers have come back down now, but they reached a high I think of 44 percent of all stock was being held by employees in the firms in which they worked. That number seems to have dropped back to around 34 percent, the latest numbers.

Give us some flavor and feel for that issue, if you will, because all of us want to do the right thing up here. We realize that this is a critically important issue. I, for one, have supported over the years the employee stock option plans not just because of its ability to generate wealth among those who work for companies, but also because of the productivity issues associated with these stocks, the kind of value.

So, I want to be careful as I vote up here on these questions. I want to avoid the kind of Enron situation where people were absolutely taken to the cleaners by what happened.

But simultaneously, I do not want to do something up here that has the unintended consequences of hurting people who legitimately are using these vehicles as a way of increasing their wealth and having other economic benefits. So those two questions.

Chairman GREENSPAN. Senator, it is my impression that if the stock of Enron had not collapsed effectively to zero, this issue would not be on the table.

Senator DODD. I suspect it might not have been, certainly.

Chairman GREENSPAN. Yes. If Dynergy, for example, had successfully merged with Enron, my impression is that the story of Enron would have been really quite different, not that there would not have been very significant losses, but the starkness of the evaporation would not have been evident in that respect.

I agree with you. I think that the employee stock options plans have been a very positive force in this country in the sense of ownership and, indeed, because there is a positive equity premium in our economy, meaning that the rate of return on stocks is chronically in excess over a rolling 20 year period of say, bonds or debt instruments, that it is useful for pensions, which have at least 20 years to run, to make sure that they have adequate common stock coverage.

I think the problem that may be an unintended consequence here is that corporations have been fairly generous in stock matching. And what I am concerned about is that you may reduce the share of the particular company stock within a 401(k), but it may be because that number went down and the rest did not go up. In other words, you can very readily create disincentives for corporate management in giving stock under ESOP plans because the incentive for them to do so has effectively been removed. It is not clear to me that that is offset by increased compensation and, hence, it is not clear to me that the employee necessarily benefits.

So all I am really suggesting is that, whatever the bills of Senator Kennedy and Senator Corzine provide—and you had an earlier version and then you backed, as I recall, Senator Kennedy's position—I just merely request that you try to evaluate as closely as you can what the impact of ESOP issuance would be under these various different provisions that would appear in any bill that would reform the pension system.

Senator DODD. Can you comment on the long-term rate issue, the gap, and the questions of the intervention on domestic fiscal policy?

Chairman GREENSPAN. There is always a tendency for the so-called term structure of interest rates to be positive, meaning short-term rates are lower than long-term.

Senator DODD. Yes.

Chairman GREENSPAN. Not all the time. Obviously, under inflationary speculative periods, you will often get short-term rates going higher than long-term rates.

But, in general, I do not think there is something terribly significant here in the sense that a very dramatic decline in long-term interest rates occurred in the second half of the year 2000, and that a goodly part of the expected decline in rates that occurred then was in anticipation of an easing of monetary policy.

And so, it is certainly the case, as many have argued, that short-term rates went down appreciably in the year 2001, but long-term rates did not. They went down some, but not a great deal.

I think the problem in part is the timeframe in which we were looking at that process. If we extended it back into July of 2000, it looks a good deal different. You do get a measurable decline in long-term rates, as well as short-term rates.

Senator DODD. Thank you, Mr. Chairman. Thank you.

Chairman SARBANES. Senator Allard.

Senator ALLARD. Chairman Greenspan, you noted in your testimony the economic importance of deregulation over the past 25 years. You went on to further state as an example, where deregulation worked in a positive manner was in the area of energy, as well as financial markets. Are there other areas out there where you think deregulation had a positive impact on the economy?

Chairman GREENSPAN. I do, Senator. As I indicated in my prepared remarks, I think that despite the fact that it is not terribly evident that deregulation has helped the profitability of airlines, there is no question that it has created a very much broader market and created the capability of American citizens to travel far more cheaply than they had in earlier periods. And the ability to create a very significant cargo freight system has I think facilitated the movement of goods of high economic value. Trucking, obviously, has been, in my judgment, a significantly improved system with the deregulation that has occurred there. There are all sorts of other smaller areas where it is questionable how much impact there has been.

I would suspect that in certain areas of deregulation, you are going to find that it does not work, or it does not work as well. But, overall, the net effect of the last 20 years has been, as best I can see, a positive force.

Senator ALLARD. Considering what our economy is doing right now, do you think it is an appropriate time now to consider reducing capital gains rates even further?

Chairman GREENSPAN. Well, Senator, I always have been in favor of doing that, but on long-term structural grounds. I do not think the capital gains tax, as I have indicated many times before this Committee, is a particularly effective tool for capital accumulation and economic growth. It has other characteristics. I think, clearly, many people argue it has positive social impact and that is an argument which I think you have to put on the table because not everything is economics.

But from an economic point of view, I would prefer that we displace the whole capital gains tax with some other form of revenue which has a less negative impact on capital accumulation, which I perceive to be a crucial issue in long-term economic growth.

Senator ALLARD. In my State of Colorado, with the international trade agreements, particularly NAFTA and GATT, we have experienced a greater growth in exports of any State in the country.

So, we have a lot of people that watch the exports and the value of the dollar. Our value of the dollar in comparison to other economies, there are two variables there about what is happening. Two big variables—one is what is happening in the United States, and also, what is happening worldwide in other countries and how we are trading with them. Is there anything that could be done to change that value of the dollar that would encourage further exports.

Chairman GREENSPAN. Senator, remember that the cause of the strength of the dollar is largely the presumed perception on the part of foreign investors that the rate of return in the United States is higher than in their home countries. And so, they are moving capital increasingly into the United States and that is pressing the exchange rate higher.

I guess we could dissuade foreigners from investing here. I am not sure that that is to our advantage. We do have the obverse of this huge flow of funds into the economy, which is our current account deficit, which increasingly widens, and the trade deficit, which is the major part of that. And that implies that—which is, of course, the other side of the capital flowing in—that there are ever increasing claims on the American economy by foreign investors. And that cannot go on indefinitely without some difficulty, history tells us.

So, I have argued many times in the past that the current account deficit, meaning the capital surplus, cannot continue to increase. But it is the capital surplus which is driving the exchange rate at this particular point. This process will end at some point, but I have been forecasting this for 5 years, and I guess I will be forecasting it for another five.

[Laughter.]

Senator ALLARD. Thank you, Mr. Chairman.

Chairman SARBANES. Senator Akaka.

Senator AKAKA. Thank you very much, Mr. Chairman.

Chairman Sarbanes, on March 5, President Bush announced temporary tariffs on selected steel imports. I would like to know your comments on the economic consequences of this action.

Chairman GREENSPAN. Well, Senator, as I have indicated before this Committee on numerous occasions, I am a very strong proponent of free trade because I believe a free international trading system has been a major contributor to the economic wealth created in this country.

I believe we benefit more than anybody from an open trading system and we have, indeed, created a significant level of living in this country in large part because of our ability to expand and get the division of labor on a worldwide basis.

I understand the obvious problems that are involved in the transition as you invariably move capital from less productive areas of an economy into the cutting-edge technologies. And it is difficult to maintain the process. There are lots of casualties, both in capital and in people, that are a consequence of these types of transitions, and that it is appropriate to try to meet them, to a certain extent.

I understand the difficulties that any President has in trying to come to grips with our trade laws and conditions such as exist in our steel industry. I happen not to agree with the particular judgment, but I recognize that it is a very tough judgment that the President had to make, and I am glad that I was not in a position where I had to make that judgment.

Senator AKAKA. Chairman Greenspan, the confidence that investors have in the equity markets, I think there is no question, has been shaken because of the collapse of Enron and the accounting irregularities that have been found in the financial statements of other public companies.

You mentioned about the earthquakes. And when I use the word shaken, I wondered at what part of the scale are we at.

There is a concern about how badly confidence in our country has been shaken, to the point that there are proposals before this Committee addressing investor protection and also ways to improve accounting systems. So my question to you is, what actions do you recommend to restore investor confidence?

Chairman GREENSPAN. Senator, I think one of the things about the Enron episode is that it is probably improved corporate governance to quite a significant degree.

The one thing I think everybody became aware of immediately subsequent to the collapse of Enron is that investors started to put a price-earnings premium on those companies which they perceived to be free of spin in the sense of trying to game their earnings numbers to make it look as though they are doing better than they actually are. And what that has done is removed a very considerable amount of incentives to do that because if you are going to be penalized for doing it, you are going to do it less.

And indeed, I think a considerable amount of changes that need to happen—and I do not deny that there are significant problems in corporate governance—have probably already happened.

I do think that numbers of issues with respect to accounting and the structure of accounting and the issue of independent directors and a variety of issues that have come forth, they will be addressed and I think we are going to find out at the end of the day that, even though Enron was a great tragedy for a number of people, especially the employees who worked there, it probably has created a positive set of forces to improve corporate governance.

I think at the end of the day, we are going to find that it was a net plus to our economy, with the obvious caveat that that is not the way those thousands of employees of Enron could conceivably visualize this very tragic incident.

Senator AKAKA. This next question is more parochial for me. The financial condition of Japan has significant influence on the economy of Hawaii. Some economists predict that the gross domestic product of Japan will decline during fiscal year 2002. And if you care to answer this, what is your economic forecast for Japan?

Chairman GREENSPAN. Well, the Federal Reserve's forecast is not significantly different from what conventional forecasts are, either of the Ministry of Finance or the Bank of Japan or private forecasters. We are all struggling with the fact that Japan is in a deflationary environment, that prices continue to ease inexorably. And projecting what has been going on, it continues to be just a continuous erosion.

I would suspect, however, that if we turn around, and I hope that the early data that we are seeing now are suggestive of that, it is quite likely to be helpful to Japan, and helpful to Southeast Asia, especially Japan. But we have never really had to confront something of the type of problem which Japan has been struggling with for the last 10 years. So that we are not quite confident about how to forecast that.

Senator AKAKA. Thank you.

Thank you, Mr. Chairman.

Chairman SARBANES. Senator Miller.

STATEMENT OF SENATOR ZELL MILLER

Senator MILLER. Thank you, Mr. Chairman. I have an opening statement that I would like to request be made part of the record.

Chairman SARBANES. It will be included in full in the record.

Senator MILLER. Mr. Chairman, thank you so much for being with us. You are always very patient in answering our questions. I will be brief. I have a couple of questions.

First, I would like to associate myself with Senators Gramm and Crapo on the derivatives question. I know you have already spoken at length about it, but one thing I would be interested in is if you had any thoughts on the impact of derivatives on energy prices during the California energy crisis.

My other question, if I may go ahead and just ask you both, has to do with something that could affect my home State of Georgia in a dramatic way. As you well know, agri-business is the backbone of the Georgia economy. It is a $60 billion business. One out of six jobs come from agri-business. Our farmers right now are facing a very uncertain future. They have skyrocketing production costs. They have low commodity prices. And as they get ready to get into their spring planting, many banks, I am told, are balking at issuing loans to these farmers until we have a new farm bill. It is causing a lot of instability, I am told.

My question is this. All my information is just anecdotal. I am wondering if you, Mr. Chairman, have seen any reticence out there from banks about making agricultural loans.

Chairman GREENSPAN. The evidence that we have is that loans coming from so-called agricultural banks, which are those with a significant part of agricultural loans in their assets, have not been basically holding back until, as you point out, possibly recently because of the seeming stalemate between the House and the Senate on the farm bill.

But we do not see any material or significant unavailability of credit, either through the commercial banks or the farm credit system. And one of the reasons obviously is that, not speaking about Georgia but generally speaking, Government payments have been at significantly higher levels and have basically supported levels of net farm income, and the real estate values, farm values, the land values, have been doing reasonably well.

The underlying income and collateral of the farm community has been such as to, as best I can judge, maintain the flow of credit.

I am not aware of banks balking, but I can understand why it could create some hesitancy on the part of some lenders. But we do not see that.

Senator MILLER. Thank you.

Chairman GREENSPAN. With respect to the California electric energy issue, you do not need to advert to derivatives to get a judgment as to why prices did what they did.

My recollection is that, 10 years ago or so, the sort of capacity buffer that the California electric power system had was the typical 15 percent for summer peak loads, which is what generally a regulated industry had because you effectively guaranteed a rate of return on capacity which was not being used. But that 15 percent kept prices down.

As the years went on and demand went up in California, especially from Silicon Valley, where electric power demands are very high, but no new capacity, no new plants, as you know, came on stream, that 15 percent gradually dissolved because there is no way to have inventories of electricity. Our battery systems are just inadequate for that. So, you get into a situation where the demand load, if it is running up against a limited capacity—and the demand tends to be price inelastic, as economists like to say, can produce some huge price spikes because there is no way to store electric power. And indeed, that is exactly what happened.

Then the authorities in California raised the retail prices of power and demand came off, as you might expect, fairly abruptly. And then, the actual load factors fell further in California, in part, remembering that one of the reasons was that the weather was favorable toward less electric power use through the summer of 2001.

But prices have come all the way down. Excess capacity exists. There has been, in fact, some delays in some of the capital expansion projects that were there.

You do not need derivatives to explain what happened to prices. It is conceivable that there may have been price manipulation. There may have been a number of things. But I do not think that you need to advert to that, as I said earlier, to explain what happened. It is a question of fact. The authorities, to inhibit price manipulation, are following the statutes that we currently have and I do not see any particular need, as I indicated to Senator Crapo, of any major change in the underlying Commodity Exchange Act.

Senator MILLER. Thank you.

Chairman SARBANES. Good. Mr. Chairman, I have one subject that I want to cover very quickly, and we may do another round. I see Senator Corzine is still with us. I want to discuss the unemployment insurance benefits for a moment.

In every recession over the past 30 years, we have extended unemployment insurance benefits. That has not yet been done in this economic downturn, and it is in part because and I do not want to draw you into this issue—but there is a very sharp conflict in the Congress.

Our colleagues particularly on the other side of the aisle, on the House side, are insistent that they will not extend unemployment insurance benefits unless there is a large tax cut again for what many of us regard as being for people who do not need a tax cut.

It looks like they may now be relenting on that, or we certainly hope so. But in any event, I have regarded it as something of an outrage that extending the unemployment insurance benefits would be linked to a tax cut, rather than to get that to help the needy.

But leaving that to one side, I think you have testified previously, you are supportive of extending unemployment insurance benefits. Is that correct?

Chairman GREENSPAN. That is correct, Mr. Chairman. I think that our unemployment insurance system is actually a reasonably well constructed one in recent years. The 26 week length of total insurance, which is pretty much general throughout the 50 States, is not a bad limit because you do not want, as other countries have, to use the unemployment system to induce people to leave the workforce.

But the premise of that is that, after 26 weeks, you should be able to get a job. When we are in a recession, that may not actually be the case. And therefore, the logic of having 26 weeks as a discipline issue in a market system is lost.

So, I argued at the House hearing that extension, temporary extension of unemployment insurance during periods of significant decline in labor demand, seems to be a most reasonable approach to the pattern. And I think the way we have done it is a fairly sensible approach to the whole concept of unemployment insurance.

Chairman SARBANES. I might note that in the downturn in the early 1990's, actually when the previous President Bush was in office, that in the end, we extended it for an additional 33 weeks. We really ran it up to 59 weeks because we had difficulty coming out of that downturn. But as you point out, it then reverted back to 26 weeks as we moved into a more stable and growth economy.

I want to ask two questions on what you said on the construct of it because I am beginning to think that maybe we need to examine that a little bit.

One is that, on average, only 46 percent of the unemployed qualify for unemployment insurance. So, we have a significant part of the workers who lose jobs who do not qualify for unemployment insurance because we require them to have worked a certain length of time and so forth. This gets complicated when you get more and more people working part-time. That is a significant component. And part-time often means 30 to 35 hours a week. They are relatively shy of full-time.

Also, you get workers coming into the workforce, like Welfare To Work, where we are trying to move people into work, and then they lose the job. And where does that leave us? Is it worth examining the coverage of the unemployment insurance program? I do not have an answer in mind. I am just beginning to think that we probably need to look at that. Let me ask the other dimension of that question.

Unemployment insurance benefits now average about $230 a week. In Northern Virginia, for example, the maximum unemployment insurance benefit is $1,160 per month. The rent for a typical two-bedroom apartment is $907 per month.

So, again, that raises the question whether we need to examine the level of the payments in terms of accomplishing our purposes.

Now, I know both of these raise questions because you do not want to turn it into some kind of semi-permanent way of life. But are those two issues worth taking a look at?

Chairman GREENSPAN. It is very difficult for me to answer. And the reason I say that is, it gets down to what the economic effects in the labor market would be were you to introduce them.

I do not know the answer to that. All I can say is that it has been my experience that the system has worked remarkably well. But implicit in it is that unemployment insurance is not freely available, and that it induces a flexibility in the workforce which has us down to an unemployment rate of under 4 percent. And I think that is a highly desirable issue.

It is always easy to find selected people within the pool of unemployed who are not getting benefits and find reasons why they should be. If you do that, I think you end up with a much higher level than you would like for purposes of macroeconomic stability and that is a judgment which I think the Congress has to make. I do not think economists can help materially in that.

Chairman SARBANES. I would just observe, the trend lines show that the percent of unemployed having access to unemployment insurance has been trending down from where it used to be.

Chairman GREENSPAN. I think that is correct, yes.

Chairman SARBANES. I also think the amount of income replaced by the unemployment insurance has also been trending down. So, at an earlier time, the system was in effect more comprehensive.

Chairman GREENSPAN. I think that is correct, Mr. Chairman. The system was significantly more comprehensive. But, in my judgment, less effective in its purpose to maintain as a safety valve which does not undercut the basic viability of the labor market.

Chairman SARBANES. Senator Corzine, did you want to wind this up here?

Senator CORZINE. Yes. Thank you, Mr. Chairman. I will be a quick second.

Mr. Chairman, in no way does the question I am going to ask change the view that I concurred with Senator Gramm and others at the start on the job that you have done in the leadership of the Federal Reserve. But I am really mystified a little bit about the response to the question with regard to the CFTC Act and the exemption of over-the-counter derivative activities and derivative entities outside regulatory oversight, if not regulatory regimes. It seems inconsistent to me relative to the needs of consumer protection or antimanipulation or price transparency in a market that has secondary implications, if not direct implications, on consumers.

There is a serious issue about whether price manipulation actually ends up backing into causes of consumer losses in California. I think that is the question that Senator Miller was referencing.

It is for certain that it has had implications on investors, at least the overall Enron issue, yet to be determined, as I think you outlined. Whether the derivatives were a driver or not certainly has not been revealed by the information we have today. But that does not necessarily mean that it is not a part of it.

I think back into relatively recent history on nonregulated entities having impact into financial markets that then have secondary implications, whether it is long-term capital, go into some of the commodity trading problems that came with Sumotomo Corp.

I go back into history, Lombard Wahl and Drysdale and a whole series of things where no oversight ended up having significant impacts into other areas.

And I think I recall another time and another place that the Federal Reserve—I do not know your own position on this—thought that the Government securities market might need some oversight so that it does not have to be ham-handed regulation. And certainly believe in counterparty surveillance, so that people would have a sense of responsibility about how they are operating. I think we do that with banks and securities firms.

And this idea that there is no oversight of a potentially significant market does not seem to gibe with the kinds of initiatives that I have seen out of the Federal Reserve Board or yourself in some instances. I would love for you to comment on that because it is inconsistent, at least in my eyesight.

Chairman GREENSPAN. No. Fair question. First of all, the CFTC clearly has supervision over regulated markets in energy and elsewhere. They also have authority under existing statute to act against price manipulation in the over-the-counter markets. And indeed, had Enron been involved in price manipulation, there is authority as of today for the CFTC to be looking at that.

Senator CORZINE. If there is not an ongoing oversight, though, then it is only a response to an event.

Chairman GREENSPAN. No. What I am trying to say is that the CFTC has legal authority. In other words, the question is, do you need additional legislation?

Senator CORZINE. Right.

Chairman GREENSPAN. And the answer is, they already have it. It is there.

What the only issue here really gets down to is the question of consumer protection, per se, in which, as I recall, when we addressed this issue in the President's Working Group, which led to the Commodity Futures Modernization Act of 2000, that when we discussed that issue at considerable length, the notion was essentially when you are dealing with small investors, do you want protection? The answer was yes. And that is what the statute does.

The question, however, of over-the-counter derivatives being overseen by regulation runs into two problems, at least from the discussions that we had at the Working Group. One, that the whole derivatives area was and still is in the process of evolving. And as you well know, when you stick a regulatory structure on top of an evolving market, you freeze it. Two, the effective advantages that one can get are particularly questionable.

The only issue that is involved here reflects the question as to whether there is oversight on the nature of the contract itself.

I remember when I was on the J.P. Morgan board and you were at Goldman Sachs, there was a huge amount of credit that moved between J.P. Morgan and Goldman and there was not any Government official overlooking whether the creditworthiness of the institutions was there or not. I would venture to say, looking at it from the point of view of what bank regulators can do, we do not have the capacity to look at counterparties at the level that it is possible for individual institutions such as Morgan or Goldman. And that, in our judgment, it was not, as we said at the time, the most effective means of regulation that you can have in those markets.

Senator CORZINE. You would not suggest that the relationship between Morgan and Goldman and credit extension between the two is not supervised either by the Federal Reserve System and/or by the SEC? There are limits.

Chairman GREENSPAN. What I am saying is that there is no way that the Federal Reserve, which, as you know, supervises Morgan, has better judgments on a loan to Goldman than the people at the bank would have.

Senator CORZINE. I am certainly not suggesting that. But there are supervisory oversights—

Chairman GREENSPAN. There are. And indeed, you have to ask whether they are positive or negative to the system.

I have no doubt that we could put every sort of regulation on derivatives and over-the-counter derivatives and force them into specific molds. I will tell you, as you would agree probably more so than I, that you will dry up that market. And if, indeed, we had seen significant problems in the over-the-counter market, I think that that is where we would be at this stage.

But what is really quite remarkable about the evolution of that market is that when problems of risk emerged, you know, we went to collateralization of derivatives, and the default rates are unimaginably low. There is this large legal issue as to whether certain transactions with Enron were a debt or a derivative—so the surety bonds are under dispute—but if you eliminate that, it is very hard to find defaults. And it was our view that in the over-the-counter energy area, it was desirable to allow that market to evolve.

We think it has. The collapse of Enron did not demonstrably impact on the prices of natural gas or electric power or any of the elements that they were significantly involved as the major player in.

Senator CORZINE. Well, though, it is not just the impacts that occur in the market, the immediate market. It has other implications for other activities when there is a financial dislocation with a particular market entity, Long-Term Capital or any other.

Chairman GREENSPAN. Let me just say this. Long-Term Capital, as you may recall, was not taking hedging positions. They took principled positions. They happened to use derivatives as the vehicle to make some of those bets. They turned out to be dubious, to say the least. But I would scarcely argue that derivatives were a factor. They could just as readily have done it by plain vanilla stocks, bonds, leverage, any other thing they could have done.

It is the case that derivatives are a very powerful tool. And if misused, they can create problems. LTCM was a problem. But I think we have to distinguish between the instruments and the actions. What I think was involved in LTCM and in Enron was, as I put in my prepared remarks, just plain, old-fashioned excess of debt. The derivatives were a vehicle in enabling that debt to be accumulated. But they could have done it in 20 other different ways. They would not have done it as efficiently or as quickly. I will grant you that.

And if it does turn out, Senator, that these types of over-the-counter derivative activities which are not now regulated, do impinge on consumers, I think that would be appropriately revisited.

What we said was that it was inappropriate at that time, meaning the year 2000, to effectively be locking in regulation until we saw a particular need for it. And at least those of us who were involved in it, did not see it then. I must say that I have not yet seen evidence to suggest that that is the case now.

But I grant you, it may turn out that way. If it does, I think it would be most appropriate to take legislative action to address that subject. However, at the moment, I have not seen anything that suggests the need for it.

Chairman SARBANES. Senator Carper.

Senator CARPER. Thank you, Mr. Chairman.

Chairman Greenspan, shortly after you completed your statement and the questioning began, I had to slip out to preside in the

Senate where we are debating today, again, the comprehensive energy bill that is before the Senate.

I telegraphed you earlier in my opening statement that I would like to visit with you just briefly before we conclude, some energy-related issues. If you could do that with me, I would be grateful.

As we debate the energy legislation before the Senate, we do so at a time when our oil imports are approaching 60 percent of that which we consume, where our trade deficit, I believe for last year, reached $300 billion. And we know that not all of that is oil, but a significant piece of that trade deficit is.

I learned this week that apparently, there is some talk of a cartel being formed similar to OPEC that might deal with another commodity, and that is natural gas. There was some talk of that occurring around the world.

Against that backdrop, and the debate on energy, I wanted to ask, if you could, just to share a word or two with the implications for our economy going forward, on our failure to adopt a comprehensive energy policy that does two things. One, produces more energy; and two, conserves more energy.

Chairman GREENSPAN. Senator, it is fairly apparent from all of the data that we have seen over the decades that there is a fairly close relationship between energy consumption and GDP. Indeed, we must be certain that even though the ratio of energy per constant dollar GDP has been falling over the years as we have gone to increasing efficiencies of various different forms, the longer-term outlook for energy is a crucial element in any view of where this economy is going over the next 10, 15, 20 years.

The problems that I see we have crucial difficulties with are more natural gas than oil because oil we can import. And one must presume that we have been able to do that to date and hopefully, we will be able to do it in the future.

Natural gas is a much more difficult issue in the sense that we have chosen natural gas as the preferred fuel for emissions reasons and there is, as you know, on the drawing board, a very significant number of gas-fired electric power plants to effectively meet the problems that we saw, not only in California, but also in many other areas of the country.

The difficulty is that natural gas is essentially a domestic and Canadian source of supply. That is, my recollection is we import about a sixth of our gas from Canada and we produce the rest of it essentially here by drilling.

And what we have found is that as the technology improves, increasingly the reservoirs that we get from drilling dissipate far more rapidly than they have in the past, which means that, if, for example, which is relative to the case, that we lose 50 percent of a new reservoir a year, then, clearly, you need gross additions to gas production to just maintain a net growth.

We expended a huge amount of effort in drilling in the last couple of years and only increased net marketed gas by a very small percent. And if you project out into the future, and if you take a look at the potential demands for natural gas, it is going to create a problem because we cannot drill fast enough to do it, which leads to the conclusion that we either get it from Canada, which is already beginning to run into capacity problems itself, or liquefied natural gas imports.

It is very likely that that is where an increasing proportion of our gas is going to come from. But we have been hesitant to put in the terminals that are required to import gas from Indonesia or from Qatar. And the reason is that there are environmental concerns about the issue of liquefied natural gas, which is a very tricky commodity to handle at cryogenic temperatures. So, we are going to have to build a number of areas which can bring the gas in and we have not really addressed that issue, and I think that is where a long-term program is required.

Second, we obviously are going to need to take a real close look at our electric grids, which are really deteriorating. And indeed, I noticed the Supreme Court, was it yesterday or the day before, unanimously voted to grant authority to FERC to require that individual utilities open up their electric power to feed into the grid, at least as I read it. That is helpful, but you need a grid that is not deteriorating to handle those particular qualities.

So, I think that if you start to look at all the various different things, including coal, there is still a very big problem that we are importing an ever-increasing proportion of our oil, which creates some national security problems as well.

It is going to be important, as far as I can judge, that we indeed take a very close look at the long-term outlook and the supply of energy and then take a close look at what our alternate sources of conservation are.

Fuel cells have a huge potential, but they are considerably far out in the future. They are not something that is going to be a major factor. And as somebody said the other day, every time we seem to be getting a fusion breakthrough, it is commercially available 50 years out.

It reminds me of shale oil. As you may recall back in the 1970's, the cost of shale oil was always something like $6 a barrel more than crude oil, no matter what the price of crude oil was, which made no sense whatever. It just sort of indicated to you that we tend to look at these newer forms of energy supply and they seem to be less available than we would like.

I think the issue of conservation, the issue of sources of production, our import strategy, our environmental strategy, are all part of an integrated strategy which the Congress has to address in total.

Senator CARPER. Thank you. Thank you, Mr. Chairman.

Chairman SARBANES. Mr. Chairman, thank you very much for appearing before the Committee. As always, we very much appreciate your testimony. And again, we wish you a happy birthday.

Chairman GREENSPAN. Thank you very much, Mr. Chairman.

Chairman SARBANES. The hearing stands adjourned.

[Whereupon, at 12:35 p.m., the hearing was adjourned.]

[Prepared statements and additional material supplied for the record follow:]

PREPARED STATEMENT OF SENATOR PAUL S. SARBANES

I am pleased to welcome Chairman Greenspan before the Committee on Banking, Housing, and Urban Affairs this morning to testify on the Federal Reserve's Semi-Annual Monetary Policy Report to Congress.

Legislation enacted in the last Congress requires the Federal Reserve not only to submit a report to Congress twice a year on the conduct of monetary policy, but also requires the Chairman of the Federal Reserve to testify before the Congress on the report. Prior to the enactment of that legislation, the Fed Chairman testified before Congress on the report as a matter of custom, but was not actually required to do so by statute. Senator Phil Gramm and I worked together with the Fed on that legislation, which provides that the Fed Chairman testifies first before the House in February in even numbered years and first before the Senate in odd numbered years. The House thus had the benefit of Chairman Greenspan's testimony last week. The Senate has the benefit of a week to review the testimony presented before the House.

Chairman Greenspan's testimony last week and this morning presents a positive, but cautious outlook for the U.S. economy. He speaks about a "subdued recovery," which he views as remarkable in light of the severe shock experienced by the economy as a result of the terrorist attack on September 11.

According to his testimony, the central tendency of the forecasts of the Federal Open Market Committee prepared for the Monetary Policy Report to Congress was for real GDP to rise 2½ to 3 percent during 2002. Unemployment was expected to rise to 6 to 6¼ percent, and inflation as measured by the price index for personal consumption expenditures was expected to increase only 1½ percent. Chairman Greenspan pointed out that despite the forecast of a resumption of economic growth, the FOMC at its meeting on January 30 saw the risks as continuing to be weighted toward conditions that may generate economic weakness in the foreseeable future.

Since Chairman Greenspan testified last Wednesday, the Commerce Department released a report which revised upward U.S. economic growth in the fourth quarter of last year from 0.2 percent to 1.4 percent. In addition, the Institute for Supply Management (ISM), formerly known as the National Association of Purchasing Management, released its index of manufacturing activity which showed a larger than expected rise and gave the first sign of growth in manufacturing in 18 months. The Federal Government also reported that consumer spending and income growth increased in January, and that construction activity expanded. These reports have led to increased optimism that a recovery is taking hold. Chairman Greenspan slightly modified his testimony from last week to reflect those reports. The Banking Committee will be very interested to hear Chairman Greenspan's views on them this morning.

I would like to make just a few of observations. First, I believe the Federal Reserve's caution about the outlook for U.S. economic recovery is well placed. Sustained consumer demand has been the foundation of the improved outlook for of the economy. However, both the University of Michigan's Consumer Sentiment Index and the Conference Board's Index of Consumer Confidence declined last month. Consumers reported that they are increasingly worried about unemployment and future income prospects. Those worries are grounded in the current weakness of labor markets, and they will only be exacerbated by the projected increases in unemployment.

In addition, most observers agree that the key to the strength of a recovery will be significant growth in capital spending, and there is great uncertainty as to whether that will occur. According to the Commerce Department, business fixed investment in the fourth quarter of last year declined at an 11 percent annual rate, even as the overall economy grew at a 1.4 percent rate.

Finally, even as the economy recovers, unemployment is expected to continue to rise, as the FOMC forecasts. Over the last year, according to the Bureau of Labor Statistics, the number of people unemployed for more than 14 weeks has nearly doubled (from 1,357,000 to 2,547,000). Those unemployed for more than 26 weeks, the cutoff for unemployment insurance, has also nearly doubled (from 648,000 to 1,127,000). This affects consumer sentiment. In my view it also makes a compelling case for the temporary 13 week extension of unemployment benefits, as passed by the Senate, for those who are looking for work but cannot find it. The extension should not be tied to the enactment of the extreme tax cut proposal put forward in the House.

The Federal Reserve is prudent to emphasize the uncertainties still present in the economic outlook. With inflation contained the Fed can afford to adopt a wait and see attitude, and certainly not move precipitously to raise interest rates. I look forward to hearing Chairman Greenspan's testimony this morning.

PREPARED STATEMENT OF SENATOR TIM JOHNSON

Chairman Greenspan, thank you for coming to today's hearing to discuss the Federal Reserve's monetary policy and the state of the U.S. economy. I would also like to recognize your staff for preparing such a comprehensive written report on these issues.

I sense a cautious optimism in your written testimony that reflects well on the resilience of the U.S. economy, especially in the wake of September 11. Further, I want to thank you, Chairman Greenspan, for the Federal Reserve's diligent management of U.S. monetary policy in helping to make the recent economic downturn, I hope, relatively shallow and brief.

While most Americans can look forward to continued prosperity during 2002, I would like to draw your attention to a segment of the population that will not share in this prosperity: the approximately 2.7 million Native American and Native Hawaiian people living in the United States.

Consider the following statistics. According to U.S. Department of Commerce's census data, unemployment rates on Indian Lands in the continental United States ranging up to 80 percent compared to 5.6 percent for the United States as a whole. Census data also show that the poverty rate for Native Americans during the late 1990's was 26 percent, compared to the national average of 12 percent. In fact, overall, Native American household income is only three-quarters of the national average.

This disparity is particularly evident in my home State of South Dakota where Native Americans represent over 8 percent of the State's population. While the overall State economy is relatively strong with a low 3.1 percent unemployment rate, the Native American population continues to suffer. South Dakota counties with Indian Reservations are ranked by the U.S. Census Bureau as among the most impoverished in the United States.

This past Tuesday's *Wall Street Journal* carried an article by Jonathan Eig that focuses, in part, on the toll of poverty for the Oglala Sioux living on the Pine Ridge Indian Reservation. The article notes that:

> Nearly half the tribe's population is destitute. The unemployment rate is about 75 percent. There is no bank, no motel, no movie theater. Restaurants open and close down before anyone notices. . .. The community has the shortest life expectancy of anywhere in the Western Hemisphere outside Haiti: 48 years old for men and 52 for women.

In light of this unacceptable economic disparity, it is important to address this issue in a comprehensive manner. Therefore, as I announced at the National Congress of American Indians 2 weeks ago, I am moving forward with a Financial Institutions Subcommittee hearing on developing capital resources for Native Americans. At the hearing, we will consider issues such as:

- mechanisms for providing small business capital;
- means for fostering the growth of Native American-owned financial intermediaries;
- incentives for financial institutions to provide services on Indian Lands;
- ways to encourage personal savings; and
- vehicles for improving financial literacy.

The goal of these discussions will be to assess the state of affairs of Native American capital formation and to develop strategies for addressing the barriers that keep the first Americans out of the financial mainstream.

I thank you, Chairman Greenspan, for your extensive and thoughtful written testimony, and for the Federal Reserve's efforts to keep the U.S. economy on track. However, in closing, I would encourage you to consider the economic problems facing Native Americans. I believe we all, including the Federal Reserve Board and Federal Reserve Banks, have a responsibility to address these issues, and I look forward to working with you on this matter.

PREPARED STATEMENT OF SENATOR WAYNE ALLARD

Mr. Chairman, I would like to thank you for holding this hearing today and I want to welcome Federal Reserve Board Chairman Greenspan. I always look forward to the opportunity to hear from you, Chairman Greenspan, regarding monetary policy and other economic issues.

The Federal Reserve's quick and aggressive efforts to counteract the effects of our Nation's weakened economy during 2001 should be applauded. The resiliency of our economy through the September 11 attacks was remarkable and it seems that the economy today is slowly gaining strength, which we can attribute to prudent monetary and fiscal policy.

Consumer spending remained high in recent months, particularly in the Housing and Automotive Sectors. This strong consumption, along with other factors, helped bring about a more stable economy. Chairman Greenspan, I look forward to hearing from you what else can be done to continue strengthening our economy.

Thank you, again, Mr. Chairman, for holding this hearing and Chairman Greenspan, I look forward to your report.

PREPARED STATEMENT OF SENATOR CHRISTOPHER J. DODD

It is always a pleasure to see you, Chairman Greenspan. I appreciate your coming before the Committee today to deliver the Monetary Policy Report to Congress.

The last time Chairman Greenspan reported on the Nation's monetary policy before this Committee was last summer. During that time we were wondering if our economy was heading toward a significant downturn. Soon after, the events of September 11 occurred, and it was announced that we were officially in a recession, and actually have been since March 2001. Never would we have predicted that so much would have occurred in the last 5 months. I would like to commend you for doing a great job in taking aggressive action to counter the effects of the shock suffered by the economy after September 11.

It has been a difficult year for our Nation. We have seen the unemployment rate climb to rates higher than we have seen in almost a decade. In 2001, the real GDP grew only 1.2 percent, inflation as measured by the Consumer Price Index rose 1.6 percent in 2001. Interesting enough, while unemployment rates climbed in 2001, consumer spending remained steady throughout. During the last 2 months, we have seen somewhat of a small rebound. The unemployment rate has decreased during the last 2 months, and hopefully, we will continue to see a decline.

Just yesterday, the Fed's Beige Book reported that a majority of Federal Reserve districts reported some signs of improvement in economic conditions in January and early February. The Beige Book also reported that the increase in retail sales during the last 2 months is an indication that the U.S. economy is recovering from the recession, but that the recovery will be a slow and weaker one than the average post-recession recovery. While a recovery is good news, there are many challenges that loom ahead. Challenges that must be confronted if we are going to build a strong economy that will afford every hard working American an opportunity to build a sound and secure future.

I look forward to hearing from the Chairman and my colleagues this morning. I especially look forward to hearing the Chairman's thoughts on the diminished surplus, the duration of the recession, and his predictions on future unemployment rates.

Again, thank you Mr. Chairman for your time before this Committee.

PREPARED STATEMENT OF SENATOR DANIEL K. AKAKA

Thank you, Mr. Chairman. As we all know, in November 2001, the National Bureau of Economic Research declared that the U.S. economy has been in recession since March 2001, ending the longest expansion in U.S. history and beginning the first downturn in a decade.

Chairman Greenspan and the Federal Reserve Board of Governors have been confronted with a recession very different than those in the past. Previous recessions were a result of a decline in consumer spending which led to a reduction in production and capital investment. The current recession has resulted from a decline in production and capital investment while consumer spending has remained strong. The Federal Reserve sharply reduced the Federal funds rate in 2001 to encourage economic growth.

There have been some encouraging economic indicators that show the early signs of a recovery. Examples of these include the growth of the gross domestic product in the fourth quarter by 1.4 percent and the significant increases in the consumer confidence index since November. In addition, durable goods orders rose in January by 2.6 percent.

However, not all economic data has been positive. Unemployment remains much higher than it was a year ago. Corporate profits remain weak and new home sales reached an 18 month low in January.

Chairman Greenspan, I thank you for appearing today. I look forward to hearing your thoughts on the state of the economy.

PREPARED STATEMENT OF SENATOR ZELL MILLER

Mr. Chairman, it is a pleasure to have you before the Committee today. My State of Georgia has been through some troubled economic times over the past few months, just as the rest of the United States has as well. In Georgia, manufacturing activity has been weak and we have seen job cuts in several industries.

Tourism has been especially hard hit after September 11. Hotel occupancy is still below normal and we are seeing continued price discounting for hotel rooms and rental cars. Our Georgia travel industry is vigorously promoting travel and tourism in our State both domestically and internationally.

Additionally, agriculture has been a big concern in Georgia. Our farmers are hurting and they are facing an uncertain future. They are struggling with skyrocketing production costs and low-commodity prices. They are desperately seeking the stability a farm bill will offer them. However, because it is taking longer to get a farm bill than anticipated, many bankers are balking at issuing loans to farmers. The bankers want a guarantee that there will be a new farm bill this season, or at the very least a disaster relief package. Our farmers cannot operate without loans. Their livelihood depends on getting that bank loan each season, so we have left them in limbo, anxiously awaiting our next move.

And finally, many of my small businesses are reporting fairly steep increases in their property and liability and workman's compensation insurance premiums. Ed Northup with Burger King in Albany, Georgia, reports that his workman's comp premiums increased 50 percent from $28,400 in 2001 to $43,366 in 2002, and his property and liability premiums increased 26 percent from $26,264 in 2001 to $33,213 in 2002. These increases may reflect post September 11 needs for a terrorism re-insurance bill.

When my time comes for questions. I look forward to asking you about many of these concerns.

PREPARED STATEMENT OF ALAN GREENSPAN

CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

MARCH 7, 2002

Since July, when I last reported to the Committee on the conduct of monetary policy, the U.S. economy has gone through a period of considerable strain, with output contracting for a time and unemployment rising. We in the Federal Reserve System acted vigorously to adjust monetary policy in an endeavor both to limit the extent of the downturn and to hasten its completion. Despite the disruptions engendered by the terrorist attacks of September 11, the typical dynamics of the business cycle have reemerged and are prompting a firming in economic activity. The recent evidence increasingly suggests that an economic expansion is already well under way, although an array of influences unique to this business cycle seems likely to moderate its speed.

At the time of our last report, the economy was weakening. Many firms were responding to the realization that significant overcapacity had developed. The demand for capital goods had dropped sharply, and inventories were uncomfortably high in many industries. In response, businesses slashed production, and the resulting declines in incomes amplified the cyclical downturn. Real gross domestic product did not grow in the second quarter and contracted in the third.

A coincident deceleration in activity among the world economies was evident over the past year, owing, at least in part, to the retrenchment in the high-technology sector and the global reach of the capital markets in which the firms in that sector are valued and funded. However, before the terrorist attacks, it was far from obvious that this concurrent weakness was becoming self-reinforcing. Indeed, immediately prior to September 11, some sectors exhibited tentative signs of stabilization, contributing to a hope that the worst of the previous cumulative weakness in world economic activity was nearing an end.

That hope was decisively dashed by the tragic events of early September. Adding to the intense forces weighing on asset prices and economic activity before September 11 were new sources of uncertainty that began to press down on global demand for goods and services. Economies almost everywhere weakened further, a cause for increasing uneasiness. The simultaneous further slowing in activity raised concerns that a self-reinforcing cycle of contraction, fed by perceptions of greater economic risk, could develop. Such an event, though rare, would not be unprecedented in business-cycle history.

If ever a situation existed in which the fabric of business and consumer confidence, both here and abroad, was vulnerable to being torn, the shock of September 11 was surely it. In addition to the horrific loss of life, enormous uncertainties had accompanied the unfolding events and their implications for the economy. Indeed, for a period of weeks, U.S. economic activity did drop dramatically in response to that shock.

In the immediate aftermath of the strikes, the Federal Reserve engaged in aggressive action to counter the effects of the shock on payment systems and financial markets. We provided a huge volume of reserves through open market operations, the discount window, and other means to facilitate the functioning of the financial system. We worked closely with many market participants, industry groups, and other Government officials on a broad range of financial infrastructure problems that needed to be resolved quickly and in the common interest.

Still, market functioning was impaired for a time. The substantial damage to trading, settlement, and communications facilities forced many market participants to their backup sites. Owing in part to careful and thorough contingency planning, many firms, markets, and exchanges were able to resume business within a few hours or days of the attacks. Nonetheless, the episode did reveal threats to, and vulnerabilities of, the operations of financial institutions that had not been previously considered and illustrated the significant interdependence of the modern financial infrastructure. Institutions will need to continue to work diligently toward ensuring that their backup capabilities are adequate. We at the Federal Reserve have been reexamining intensively our own contingency capabilities to ensure that our central banking functions can be performed in the most pressing of emergency circumstances.

In the weeks following the attacks, along with the drops in activity and confidence, equity prices fell markedly, and lenders became more cautious, boosting risk premiums, especially on credits already considered to be weak. In response, the Federal Reserve reduced short-term interest rates considerably further. Longer-term yields, including mortgage rates, fell to extraordinarily low levels. The monetary stimulus that we provided was visible not only in interest rates but also in a rapid growth of liquidity over the final months of the year, as gauged by the broad monetary aggregates. As the fourth quarter progressed, business and consumer confidence recovered, no doubt buoyed by successes in the war on terrorism. The improved sentiment seemed to buffer the decline in economic activity.

Indeed, in the past several months, increasing signs have emerged that some of the forces that have been restraining the economy over the past year are starting to diminish and that activity is beginning to firm. The appearance of these signs, in circumstances in which the level of the real Federal funds rate was at a very low level, led the Federal Open Market Committee to keep policy unchanged at its meeting in late January, although it retained its assessment that risks were tilted toward economic weakness.

One key consideration in the assessment that the economy is moving through a turning point is the behavior of inventories. Stocks in many industries have been drawn down to levels at which firms will soon need to taper off their rate of liquidation, if they have not already done so. Any slowing in the rate of inventory liquidation will induce a rise in industrial production if demand for those products is stable or is falling only moderately. That rise in production will, other things being equal, increase household income and spending. The runoff of inventories, even apart from the large reduction in motor vehicle stocks, remained sizable in the fourth quarter. Hence, with production running well below sales, the lift to income and spending from the inevitable cessation of inventory liquidation could be significant.

But that impetus to the growth of activity will be short-lived unless sustained increases in final demand kick in before the positive effects of the swing from inventory liquidation dissipate. We have seen encouraging signs in recent days that underlying trends in final demand are strengthening, although the dimensions of the pickup remain uncertain.

Most recoveries in the post-World War II period received a boost from a rebound in demand for consumer durables and housing from recession-depressed levels in addition to an abatement of inventory liquidation. Through much of last year's slowdown, however, spending by the household sector held up well and proved to be a major stabilizing force. As a consequence, although household spending should continue to trend up, the potential for significant acceleration in activity in this sector is likely to be more limited than in past cycles.

In fact, there are a number of cross currents in the outlook for household spending. In recent months, low mortgage interest rates and favorable weather have provided considerable support to homebuilding. Moreover, attractive mortgage rates have bolstered the sales of existing homes and the extraction of capital gains embedded in home equity that those sales engender. Low rates have also encouraged households to take on larger mortgages when refinancing their homes. Drawing on home equity in this manner is a significant source of funding for consumption and home modernization. The pace of such extractions likely dropped along with the decline in refinancing activity that followed the backup in mortgage rates that began in early November. But mortgage rates remain at low levels and should continue to underpin activity in this sector.

Consumer spending received a considerable lift from the sales of new motor vehicles, which were remarkably strong in October and November owing to major financing incentives. Sales have receded somewhat, but they have remained surprisingly resilient. Other consumer spending appears to have advanced at a solid pace in recent months.

The substantial declines in the prices of natural gas, fuel oil, and gasoline have clearly provided some support to real disposable income and spending. To have a more persistent effect on the ongoing growth of total personal consumption expenditures, energy prices would need to decline further. Futures prices do not suggest that such an outcome is in the offing, though the forecast record of these markets is less than impressive.

Changes in household financial positions in recent years are probably damping consumer spending, at least to a degree. Overall household wealth relative to income has dropped from a peak multiple of about 6.3 at the end of 1999 to around 5.3 currently. Moreover, the aggregate household debt service burden, defined as the ratio of households' required debt payments to their disposable personal income, rose considerably in recent years, returning last year to its previous cyclical peak of the mid-1980's.

However, neither wealth nor the burden of debt is distributed evenly across households. Hence, the spending effects of changes in these influences also will not be evenly distributed. For example, increased debt burdens appear disproportionately attributable to higher-income households. Calculations by staff at the Federal Reserve suggest that the ratio of household liabilities to annual income for the top fifth of all households ranked by income, who accounted for 44 percent of total after-tax household income last year, rose from about 1.10 at the end of 1998 to 1.20 at the end of the third quarter of 2001. The increase for the lower four-fifths was only about half as large. Although high-income households should not experience much strain in meeting their obligations, others might. Indeed, repayment difficulties have already increased, particularly in the subprime markets for consumer loans and mortgages. Delinquency rates may well worsen as a delayed result of the strains on household finances over the past 2 years. Large erosions, however, do not seem likely, and the overall levels of debt and repayment delinquencies do not, as of now, appear to pose a major impediment to a moderate expansion of consumption spending going forward.

Although the macroeconomic effects of debt burdens may be limited, we have already seen significant spending restraint among the top fifth of income earners, presumably owing to the drop in equity prices. The effect of the stock market on other households' spending has been less evident. Moderate-income households have a much larger proportion of their assets in homes, and the continuing rise in the value of houses has provided greater support for their net worth. Reflecting these differences in portfolio composition, the net worth of the top fifth of income earners has dropped far more than it did for the bottom 80 percent.

As a consequence, excluding capital gains and losses from the calculation, as is the convention in our national income accounts, personal saving for the upper fifth, which had been negative during 1999 and 2000, turned positive in 2001. By contrast, the average saving rate for the lower four-fifths of households, by income, was generally positive during the second half of the 1990's and has fluctuated in a narrow range in the past 2 years. Accordingly, most of the change in consumption expenditures that resulted from the bull stock market, and its demise, reflected shifts in spending by upper-income households. The restraining effects from the net decline in wealth during the past 2 years presumably have not, as yet, fully played out and could exert some further damping effect on the overall growth of household spending relative to that of income.

Perhaps most central to the outlook for consumer spending will be developments in the labor market. The pace of layoffs quickened last fall, especially after September 11, and the unemployment rate rose sharply. However, layoffs diminished noticeably in January, and the reported unemployment rate declined—though adjusting for seasonal influences was difficult last month. Moreover, initial claims for unemployment insurance have decreased markedly, on balance, providing further evidence of an improvement in labor market conditions. Even if the economy is on the road to recovery, the unemployment rate, in typical cyclical fashion, may resume its increase for a time, and a soft labor market could put something of a damper on consumer spending.

However, the extent of such restraint will depend on how much of any rise in unemployment is the result of weakened demand for goods and services and how much reflects strengthened productivity. In the latter case, average real incomes of workers could rise, at least partially offsetting losses of purchasing power that stem from diminished levels of employment. Indeed, preliminary data suggest that productivity has held up very well of late, and history suggests that any depressing effect of rapid productivity growth on employment is only temporary.

The dynamics of inventory investment and the balance of factors influencing consumer demand will have important consequences for the economic outlook in coming months. But the broad contours of the present cycle have been, and will continue to be, driven by the evolution of corporate profits and capital investment.

The retrenchment in capital spending over the past year and a half was central to the sharp slowing we experienced in overall activity. The steep rise in high-tech spending that occurred in the early post-Y2K months was clearly not sustainable. The demand for many of the newer technologies was growing rapidly, but capacity was expanding even faster, and that imbalance exerted significant downward pressure on prices and the profits of producers of high-tech goods and services. New orders for equipment and software hesitated in the middle of 2000 and then fell abruptly as firms reevaluated their capital investment programs. Uncertainty about economic prospects boosted risk premiums significantly, and this rise, in turn, propelled required, or hurdle, rates of return to markedly elevated levels. In most cases, businesses required that new investments pay off much more rapidly than they had previously. For much of last year, the resulting decline in investment outlays was fierce and unrelenting. Although the weakness was most pronounced in the technology area, reductions in capital outlays were broad-based.

These cutbacks in capital spending interacted with, and were reinforced by, falling profits and equity prices. Indeed, a striking feature of the current cyclical episode relative to many earlier ones has been the virtual absence of pricing power across much of American business, as increasing globalization and deregulation have enhanced competition. In this low-inflation environment, firms have perceived very little ability to pass cost increases on to customers. To be sure, growth in hourly labor compensation has moderated in response to slowed inflation and deteriorating economic conditions. A significant falloff in stock-option realizations and in other forms of compensation related to company performance has likely been a factor. But over most of the past year, even those smaller hourly compensation increases outstripped gains in output per hour, precipitating a marked decline in profit margins.

Business managers, with little opportunity to raise prices, have moved aggressively to stabilize cashflows by trimming workforces. These efforts have limited any rise in unit costs, attenuated the pressure on profit margins, and ultimately helped to preserve the vast majority of private-sector jobs. To the extent that businesses are successful in stabilizing and eventually boosting profits and cashflow, capital spending should begin to recover more noticeably.

Part of the reduction in pricing power observed in this cycle should be reversed as firming demand enables firms to take back large price discounts. Though such an adjustment would tend to elevate price levels, underlying inflationary cost pressures should remain contained. Output per hour is not likely to accelerate this year as much as in a typical recovery because businesses have not delayed, as they have in past recessions, shedding workers at the first indications of weakened demand. But slack in labor markets and further increases in productivity should hold labor costs in check and result in rising profit margins even with inflation remaining low.

Improved profit margins and more assured prospects for rising final demand would likely be accompanied by a decline in risk premiums from their current elevated levels toward a more normal range. With real rates of return on high-tech equipment still attractive, that should provide an additional spur to new investment. Reports from businesses around the country suggest that the exploitation of available networking and other information technologies was only partially completed when the cyclical retrenchment of the past year began. Many business managers are still of the view, according to a recent survey of purchasing managers, that less than half of currently available new, and presumably profitable, supply chain technologies have been put into use.

Recent evidence suggests that a recovery in at least some forms of high-tech investment could already be under way. Production of semiconductors, which in the past has been a leading indicator of computer production, turned up last fall. Expenditures on computers rose at a double-digit annual rate in real terms last quarter. But investment expenditures in the communications sector, where the amount of overcapacity was substantial, as yet show few signs of turning up, and business investment in some other sectors, such as aircraft, hit by the drop in air travel, will presumably remain weak this year.

On balance, the recovery in overall spending on business fixed investment is likely to be only gradual; in particular, its growth will doubtless be less frenetic than in 1999 and early 2000—a period during which outlays were boosted by the dislocations of Y2K and the extraordinarily low cost of equity capital available to many firms. Nonetheless, if the recent more favorable economic developments gather momentum, uncertainties will diminish, risk premiums will fall, and the pace of capital investment embodying new technologies will increase.

Even a subdued recovery would constitute a truly remarkable performance for the American economy in the face of so severe a decline in equity asset values and an unprecedented blow from terrorists to the foundations of our market systems. For, if the tentative indications that the contraction phase of this business cycle has drawn to a close are ultimately confirmed, we will have experienced a significantly milder downturn than the long history of business cycles would have led us to expect. Crucially, the imbalances that triggered the downturn and that could have prolonged this difficult period did not fester. The obvious questions are what has changed in our economy in recent decades to provide such resilience and whether such changes will persist into the future.

Doubtless, the substantial improvement in the access of business decisionmakers to real-time information has played a key role. Thirty years ago, the timeliness of available information varied across companies and industries, often resulting in differences in the speed and magnitude of their responses to changing business conditions. In contrast to the situation that prevails today, businesses did not have real-time data systems that enabled decisionmakers in different enterprises to work from essentially the same set of information. In those earlier years, imbalances were inadvertently allowed to build to such an extent that their inevitable correction engendered significant economic stress. That process of correction and the accompanying economic and financial disruptions led to deep and prolonged recessions. Today, businesses have large quantities of data available virtually in real time. As a consequence, they address and resolve economic imbalances far more rapidly than in the past.

The apparent increased flexibility of the American economy arguably also reflects the extent of deregulation over the past quarter century. Certainly, if the energy sector were still in the tight regulatory fetters of the 1970's, our flexibility today would be markedly less. That the collapse of Enron barely registered in the relatively recently developed markets for natural gas and electric power was encouraging. Although the terrorist attacks hit air travel especially hard over the past few months, deregulation of that industry has demonstrably increased the quantity and flexibility, if not the profitability, of air travel over the past 20 years. Trucking and rail deregulation has added flexibility to the movement of goods across our Nation.

Both deregulation and innovation in the financial sector have been especially important in enhancing overall economic resilience. New financial products—including derivatives, assetbacked securities, collateralized loan obligations, and collateralized mortgage obligations, among others—have enabled risk to be dispersed more effectively to those willing to, and presumably capable of, bearing it. Shocks to the overall economic system are accordingly less likely to create cascading credit failure. Lenders have the opportunity to be considerably more diversified, and borrowers are far less dependent on specific institutions for funds. Financial derivatives, particularly, have grown at a phenomenal pace over the past 15 years, evidently fulfilling a need to hedge risks that were not readily deflected in earlier decades. Despite the concerns that these complex instruments have induced (an issue I will address shortly), the record of their performance, especially over the past couple of stressful years, suggests that on balance they have contributed to the development of a far more flexible and efficient financial system—both domestically and internationally—than we had just 20 or 30 years ago.

As a consequence of increased access to real-time information and, more arguably, extensive deregulation in financial and product markets and the unbundling of risk, imbalances are more likely to be readily contained, and cyclical episodes overall should be less severe than would be the case otherwise. If this is indeed the case—and it must be considered speculative until more evidence is gathered—the implied reduction in volatility, other things equal, would lower risk and equity premiums.

Other things, however, may not be wholly equal. The very technologies that appear to be the main cause of our apparent increased flexibility and resiliency may also be imparting different forms of vulnerability that could intensify or be intensified by a business cycle.

From one perspective, the ever-increasing proportion of our GDP that represents conceptual as distinct from physical value added may actually have lessened cyclical volatility. In particular, the fact that concepts cannot be held as inventories means a greater share of GDP is not subject to a type of dynamics that amplifies cyclical swings. But an economy in which concepts form an important share of valuation has its own vulnerabilities.

As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small proportion of its asset base. Trust and reputation can vanish overnight. A factory cannot.

The implications of such a loss of confidence for the macroeconomy depend importantly on how freely the conceptual capital of the fading firm can be replaced by a competitor or a new entrant into the industry. Even if entry is relatively free, macroeconomic risks can emerge if problems at one particular firm tend to make investors and counterparties uncertain about other firms that they see as potentially similarly situated. The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion.

Another, more conventional determinant of stability will be the economy's degree of leverage—the extent to which debt rather than equity is financing the level of capital. The proper degree of leverage in a firm, or in an economy as a whole, is an inherently elusive figure that almost certainly changes from time to time. Clearly, firms find some leverage advantageous in enhancing returns on equity, and thus moderate leverage undoubtedly boosts the capital stock and the level of output. A sophisticated financial system, with its substantial array of instruments to unbundle risks, will tend toward a higher degree of leverage at any given level of underlying economic risk. But, the greater the degree of leverage in any economy, the greater its vulnerability to unexpected shortfalls in demand and mistakes.

Indeed, on a historical cost basis, the ratio of debt to net worth for the nonfinancial corporate business sector did rise, from 71 percent at the end of 1997 to about 81 percent at the end of the third quarter of last year, though it is still well below its level at the beginning of the recession in 1990. The ratio of interest payments to cashflow, one indicator of the consequence of leverage, has slowly crept up in recent years, reflecting growth in debt. Owing to lower interest rates, it remains far below its levels of the early 1990's.

Although the fears of business leverage have been mostly confined to specific sectors in recent years, concerns over potential systemic problems resulting from the vast expansion of derivatives have reemerged with the difficulties of Enron. To be sure, firms like Enron, and Long-Term Capital Management before it, were major players in the derivatives markets. But their problems were readily traceable to an old fashioned excess of debt, however acquired, as well as to opaque accounting of that leverage and lax counterparty scrutiny. Swaps and other derivatives throughout their short history, including over the past 18 months, have been remarkably free of default. Of course, there can be latent problems in any market that expands as rapidly as these markets have. Regulators and supervisors are particularly sensitive to this possibility. Derivatives have provided greater flexibility to our financial system. But their very complexity could leave counterparties vulnerable to significant risk that they do not currently recognize, and hence these instruments potentially expose the overall system if mistakes are large. In that regard, the market's reaction to the revelations about Enron provides encouragement that the force of market discipline can be counted on over time to foster much greater transparency and increased clarity and completeness in the accounting treatment of derivatives.

How these countervailing forces for stability evolve will surely be a major determinant of the volatility that our economy will experience in the years ahead. Monetary policy will have to be particularly sensitive to the possibility that the resiliency our economy has exhibited during the past 2 years signals subtle changes in the way our system functions.

Our most recent experiences underscore this possibility, along with the persistence of a long list of older, well-tested, economic verities. Inventories, especially among producers and purchasers of high-tech products, did run to excess over the past year, as sales forecasts went badly astray; alas, technology has not allowed us to see into the future any more clearly than we could previously. But technology did facilitate the quick recognition of the weakening in sales and backup of inventories. This enabled producers to respond, as evidenced by output adjustments that resulted in the extraordinary rate of inventory liquidation that we experienced late last year.

For the period just ahead, the central tendency of the forecasts of the members of the Federal Open Market Committee prepared earlier for our monetary policy report to the Congress was for real GDP to rise 2½ to 3 percent during 2002. Such a pace for the growth of real output would be somewhat below the rates of growth typically seen early in previous expansions. Certain factors, such as the lack of pent-up demand in the consumer sector, significant levels of excess capacity in a number of industries, weakness and financial fragility in some key international trading partners, and persistent caution in financial markets at home, seem likely to restrain the near-term performance of the economy.

In line with past experience during the early stages of expansion, labor market performance was expected initially to lag as firms rely primarily on overtime and shifts from part-time to full-time work. The unemployment rate was anticipated to rise somewhat further over 2002, to the area of 6 to 6¼ percent. FOMC members evidently anticipated that slack in resource utilization, the lagged effects of past declines in energy prices, and productivity growth will keep inflation low this year, with the price index for personal consumption expenditure increasing 1½ percent.

Despite its forecast that economic growth is likely to resume at a moderate pace, as I already noted, the Federal Open Market Committee at its meeting on January 30 saw the risks nonetheless as continuing to be weighted mainly toward conditions that may generate economic weakness in the foreseeable future. In effect, the FOMC indicated that until the dynamics of sustained expansion are more firmly in place, it remained concerned about the possibility of weak growth for a time, despite the very low level of the Federal funds rate.

Although there are ample reasons to be cautious about the economic outlook, the recuperative powers of the U.S. economy, as I have tried to emphasize in my presentation, have been remarkable. When I presented our report on monetary policy to this Committee last summer, few if any of us could have anticipated events such as those to which our Nation has subsequently been subjected. The economic consequences of those events and their aftermath are an integral part of the challenges that we now collectively face. The U.S. economy has experienced a substantial shock, and, no doubt, we continue to face risks in the period ahead. But the response thus far of our citizens to these new economic challenges provides reason for encouragement.

For use at 10:00 a.m., EST
Wednesday
February 27, 2002

Board of Governors of the Federal Reserve System

Monetary Policy Report to the Congress

Pursuant to section 2B of the Federal Reserve Act

February 27, 2002

Letter of Transmittal

BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM
Washington, D.C., February 27, 2002

THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

The Board of Governors is pleased to submit its Monetary Policy Report to the Congress pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Alan Greenspan, Chairman

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Monetary Policy Report to the Congress

Report submitted to the Congress on February 27, 2002, pursuant to section 2B of the Federal Reserve Act

MONETARY POLICY AND THE ECONOMIC OUTLOOK

Last year was a difficult one for the economy of the United States. The slowdown in the growth of economic activity that had become apparent in late 2000 intensified in the first half of the year. Businesses slashed investment spending—making especially deep cuts in outlays for high-technology equipment—in response to weakening final demand, an oversupply of some types of capital, and declining profits. As actual and prospective sales deteriorated, many firms in the factory sector struggled with uncomfortably high levels of inventories, and the accompanying declines in manufacturing output steepened. At the same time, foreign economies also slowed, further reducing the demand for U.S. production. The aggressive actions by the Federal Reserve to ease the stance of monetary policy in the first half of the year provided support to consumer spending and the housing sector. Nevertheless, the weakening in activity became more widespread through the summer, job losses mounted further, and the unemployment rate moved higher. With few indications that economic conditions were about to improve, with underlying inflation moderate and edging lower, and with inflation expectations well contained, the Federal Reserve continued its efforts to counter the ongoing weakness by cutting the federal funds rate, bringing the cumulative reduction in that rate to 3 percentage points by August.

The devastating events of September 11 further set back an already fragile economy. Heightened uncertainty and badly shaken confidence caused a widespread pullback from economic activity and from risk-taking in financial markets, where equity prices fell sharply for several weeks and credit risk spreads widened appreciably. The most pressing concern of the Federal Reserve in the first few days following the attacks was to help shore up the infrastructure of financial markets and to provide massive quantities of liquidity to limit potential disruptions to the functioning of those markets. The economic fallout of the events of September 11 led the Federal Open Market Committee (FOMC) to cut the target federal funds rate after a conference call early the following week and again at each meeting through the end of the year (see box "Monetary Policy after the Terrorist Attacks").

Displaying the same swift response to economic developments that appears to have characterized much business behavior in the current cyclical episode, firms moved quickly to reduce payrolls and cut production after mid-September. Although these adjustments occurred across a broad swath of the economy, manufacturing and industries related to travel, hospitality, and entertainment bore the brunt of the downturn. Measures of consumer confidence fell sharply in the first few weeks after the attacks, but the deterioration was not especially large by cyclical standards, and improvement in some of these indexes was evident in October. Similarly, equity prices started to rebound in late September, and risk spreads began to narrow somewhat by early November, when it became apparent that the economic effects of the attacks were proving less severe than many had feared.

Consumer spending remained surprisingly solid over the final three months of the year in the face of enormous economic uncertainty, widespread job losses, and further deterioration of household balance sheets from the sharp drop in equity prices immediately following September 11. Several factors were at work in support of household spending during this period. Low and declining interest rates provided a lift to outlays for durable goods and to activity in housing markets. Nowhere was the boost from low interest rates more apparent than in the sales of new motor vehicles, which soared in response to the financing incentives offered by manufacturers. Low mortgage interest rates not only sustained high levels of new home construction but also allowed households to refinance mortgages and extract equity from homes to pay down other debts or to increase spending. Fiscal policy provided additional support to consumer spending. The cuts in taxes enacted last year, including the rebates paid out over the summer, cushioned the loss of income from the deterioration in labor markets. And the purchasing power of household income was further enhanced by the sharp drop in energy prices during the autumn. With businesses having positioned themselves to absorb a falloff of demand, the surprising strength in household spending late in the year resulted in a dramatic liquidation of inventories. In the end, real gross domestic product posted a much better performance than had been anticipated in the immediate aftermath of the attacks.

More recently, there have been encouraging signs that economic activity is beginning to firm. Job losses diminished considerably in December and January, and initial claims for unemployment insurance and

Monetary Policy after the Terrorist Attacks

The terrorist attacks on September 11 destroyed a portion of the infrastructure of U.S. financial markets, disrupted communication networks, and forced some market participants to retreat to contingency sites in varying states of readiness. These developments, along with the tragic loss of life among the employees of a few major financial firms, greatly complicated trading, clearing, and settlement of many different classes of financial instruments. Direct dislocations elevated uncertainties about payment flows, making it difficult for the reserve market to channel funds where they were needed most. Depositories that held more reserve balances than they preferred had considerable difficulty unloading the excess in the market; by contrast, depositories awaiting funds had to scramble to cover overdraft positions. As a result, the effective demand for reserves ballooned.

The Federal Reserve accommodated the increase in the demand for reserves through a variety of means, the relative importance of which shifted through the week. On Tuesday morning, shortly after the attacks, the Federal Reserve issued a press release reassuring financial markets that the Federal Reserve System was functioning normally and stating that "the discount window is available to meet liquidity needs." Depository institutions took up the offer, and borrowing surged to a record $45½ billion by Wednesday. Discount loans outstanding dropped off sharply on Thursday and returned to very low levels by Friday. Separately, overnight overdrafts on Tuesday and Wednesday rose to several billion dollars, as a handful of depository and other institutions with accounts at the Federal Reserve were forced into overdraft on their reserve accounts. Overnight overdrafts returned to negligible levels by the end of the week.

Like their U.S. counterparts, foreign financial institutions operating in the United States faced elevated dollar liquidity needs. In some cases, however, these institutions encountered difficulties positioning the collateral at their U.S. branches to secure Federal Reserve discount window credit. To be in a position to help meet those needs, three foreign central banks established new or expanded arrangements with the Federal Reserve to receive dollars in exchange for their respective currencies. These swap lines, which lasted for thirty days, consisted of $50 billion for the European Central Bank, $30 billion for the Bank of England, and an increase of $8 billion (from $2 billion to $10 billion) for the Bank of Canada. The European Central Bank drew on its line that week to channel the funds to institutions with a need for dollars.

By Thursday and Friday, the disruption in air traffic caused the Federal Reserve to extend record levels of credit to depository institutions in the form of check float. Float increased dramatically because the Federal Reserve continued to credit the accounts of banks for deposited checks even though the grounding of airplanes meant that checks normally shipped by air could not be presented to the checkwriters' banks on the usual schedule. Float declined to normal levels the following week once air traffic was permitted to recommence. Lastly, over the course of the week that included September 11, as the market for reserves began to function more normally, the Federal Reserve resumed the use of open market operations to provide the bulk of reserves. The open market Desk accommodated all propositions down to the target federal funds rate, operating exclusively through overnight transactions for several days. The injection of reserves through open market operations peaked at $81 billion on Friday. The combined infusion of liquidity from the various sources pushed the level of reserve balances at Federal Reserve Banks to more than $100 billion on Wednesday, September 12, about ten times the normal level. As anticipated by the FOMC, federal funds traded somewhat below their new target level for the rest of the week. By the end of the month, bid–asked spreads and trading volumes in the interbank and other markets receded to more normal levels, and federal funds consistently began to trade around the intended rate.

The Federal Reserve took several steps to facilitate market functioning in September in addition to accommodating the heightened demand for reserves. The hours of funds and securities transfer systems operated by the Federal Reserve were extended significantly for a week after the attacks. The Federal Reserve Bank of New York liberalized the terms under which it would lend the securities in the System portfolio, and the amount of securities lent rose to record levels in the second half of September. For the ten days following the attacks, the Federal Reserve reduced or eliminated the penalty charged on overnight overdrafts, largely because those overdrafts were almost entirely the result of extraordinary developments beyond the control of the account holders. In addition, the Federal Reserve helped restore communication between market participants and in some cases processed bilateral loans of reserves between account holders in lieu of market intermediation.

the level of insured unemployment have reversed their earlier sharp increases. Although motor vehicle purchases have declined appreciably from their blistering fourth-quarter pace, early readings suggest that consumer spending overall has remained very strong early this year. In the business sector, new orders for capital equipment have provided some tentative indications that the deep retrenchment in investment spending could be abating. Meanwhile, purchasing managers in the manufacturing sector report that orders have strengthened and that they view the level of their customers' inventories as being in better balance. Indeed, the increasingly rapid pace of inventory runoff over the course of the last year has left the level of production well below that of sales, suggesting scope for a recovery in output given the current sales pace. Against this backdrop, the FOMC left its target for the federal funds rate unchanged in January. However, reflecting a concern that growth could be weaker than the economy's potential for a time, the FOMC retained its assessment that the risks were tilted unacceptably toward economic weakness.

The extent and persistence of any recovery in production will, of course, depend critically on the trajectory of final demand in the period ahead. Several factors are providing impetus to such a recovery in the coming year. With the real federal funds rate hovering around zero, monetary policy should be positioned to support growth in spending. Money and credit expanded fairly rapidly through the end of the year, and many households and businesses have strengthened their finances by locking in relatively low-cost long-term credit. The second installment of personal income tax cuts and scheduled increases in government spending on homeland security and national defense also will provide some stimulus to activity this year. Perhaps the most significant potential support to the economy could come from further gains in private-sector productivity. Despite the pronounced slowdown in real GDP growth last year, output per hour in the nonfarm business sector increased impressively. Continued robust gains in productivity, stemming from likely advances in technology, should provide a considerable boost to household and business incomes and spending and contribute to a sustained, noninflationary recovery.

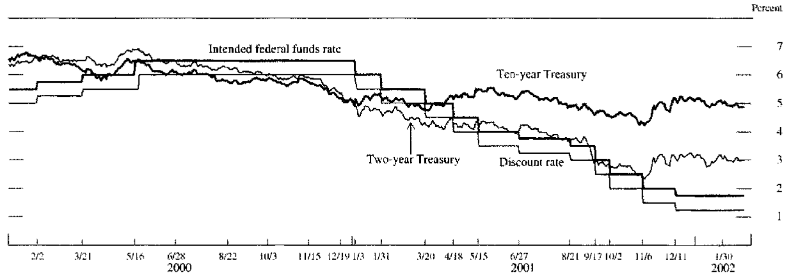
Still, the economy faces considerable risk of subpar economic performance in the period ahead. Because outlays for durable goods and for new homes have been relatively well maintained in this cycle, the scope for strong upward impetus from household spending seems more limited than has often been the case in past recoveries. Moreover, the net decline in household net worth relative to income over the past two years is likely to continue to restrain the growth of spending in coming quarters. To be sure, the contraction in business capital spending appears to be waning. But spending on some types of equipment, most notably communications equipment, continues to decline, and there are few signs yet of a broad-based upturn in capital outlays. Activity abroad remains subdued, and a rebound of foreign output is likely to follow, not lead, a rebound in the United States. Furthermore, lenders and equity investors remain quite cautious. Banks have continued to tighten terms and standards on loans, and risk spreads have increased a little this year. Stock prices have retreated from recent highs as earnings continue to fall amid concerns about the transparency of corporate financial reports and uncertainty about the pace at which profitability will improve.

Monetary Policy, Financial Markets, and the Economy over 2001 and Early 2002

As economic weakness spread and intensified over the first half of 2001, the FOMC aggressively lowered its target for the federal funds rate. Because firms reacted unusually swiftly to indicators that inventories were uncomfortably high and capital was becoming underutilized, the drop in production and business capital spending was especially steep. Moreover, sharp downward revisions in corporate profit expectations caused equity prices to plunge, which, along with a decline in consumer confidence, pointed to vulnerability in household spending. Meanwhile, a significant deceleration in energy prices, after a surge early in the year, began to hold down overall inflation; the restraining effect of energy prices, combined with the moderation of resource utilization, also promised to reduce core inflation. Responding to the rapid deterioration in economic conditions, the FOMC cut its target for the federal funds rate 2½ percentage points—in 5 half-point steps—by the middle of May. Moreover, the FOMC indicated throughout this period that it judged the balance of risks to the outlook as weighted toward economic weakness. The Board of Governors of the Federal Reserve System approved reductions in the discount rate that matched the Committee's cuts in the target federal funds rate. As a result, the discount rate declined from 6 percent to 3½ percent over the period.

At its June and August meetings, the FOMC noted information suggesting continued softening in the economy and a lack of convincing evidence that the end of the slide in activity was in sight. Although consumer spending on both housing and nonhousing

Selected interest rates



Note. The data are daily and extend through February 21, 2002. The dates on the horizontal axis are those of scheduled FOMC meetings and of any intermeeting policy actions.

items—buoyed by the tax cuts and rebates, low mortgage interest rates, declining energy prices, and realized capital gains from home sales—remained fairly resilient, economic conditions in manufacturing deteriorated further. Firms continued to reduce payrolls, work off excess inventories, and cut back capital equipment expenditures amid sluggish growth in business sales, significantly lower corporate profits, and greater uncertainty about future sales and earnings. With energy prices in retreat, price inflation remained subdued. In reaching its policy decisions at its June and August meetings, the FOMC took into account the substantial monetary policy stimulus already implemented since the start of the year—but not yet fully absorbed by the economy—and the oncoming effects of stimulative fiscal policy measures recently enacted by the Congress. Consequently, the Committee opted for smaller interest rate cuts of ¼ percentage point at both the June and August meetings, which brought the target federal funds rate down to 3½ percent; as earlier in the year, the FOMC continued to indicate that it judged the balance of risks to the outlook as weighted toward economic weakness. After both meetings, the Board of Governors of the Federal Reserve System also approved similar reductions in the discount rate, which moved down to 3 percent.

After the terrorist attacks on September 11, the available Committee members held a telephone conference on September 13, during which they agreed that the financial markets were too disrupted to allow for an immediate alteration in the stance of monetary policy. However, the members were in agreement that the attacks' potential effects on asset prices and on the performance of the economy, and the resulting uncertainty, would likely warrant some policy easing in the very near future. Accordingly, the FOMC, at a telephone conference on September 17, voted to reduce its target for the federal funds rate ½ percentage point, to 3 percent, and stated that it continued to judge the risks to the outlook to be weighted toward economic weakness.

Over subsequent weeks, heightened aversion to risk, which caused investors to flock from private to Treasury and federal agency debt, boosted risk spreads sharply, especially on lower-rated corporate debt. Increased demand for safe and liquid assets contributed to selling pressure in the stock market. At its October 2 meeting, the FOMC had little hard information available on economic developments since the attacks. However, evidence gleaned from surveys, anecdotes, and market contacts indicated that the events of September 11 had considerable adverse repercussions on an already weak economy: Survey indicators of consumer confidence had fallen, and consumer spending had apparently declined. At the same time, anecdotal information pointed to additional deep cutbacks in capital spending by many firms after an already-significant contraction in business fixed investment over the summer months.

When the FOMC met on November 6, scattered early data tended to confirm the information that the decline in production, employment, and final demand had steepened after the terrorist attacks. Although an economic turnaround beginning in the first half of 2002 was a reasonable expectation according to the Committee, concrete evidence that the economy was stabilizing had yet to emerge. Meanwhile, the marked decrease in energy prices since the spring had induced a decline in overall price inflation, and inflation expectations had fallen. Accordingly, the FOMC voted to lower its target for the federal funds rate

½ percentage point at both its October and November meetings and reiterated its view that the risks to the outlook were weighted toward economic weakness. The sizable adjustments in the stance of monetary policy in part reflected concerns that insufficient policy stimulus posed an unacceptably high risk of a more extended cyclical retrenchment that could prove progressively more difficult to counter, given that the federal funds rate—at 2 percent—was already at such a low level.

By the time of the December FOMC meeting, the most recent data were suggesting that the rate of economic decline might be moderating. After plunging earlier in the year, orders and shipments of nondefense capital goods had turned up early in the fourth quarter, and the most recent survey evidence for manufacturing also suggested that some expansion in that sector's activity might be in the offing. In the household sector, personal consumption expenditures appeared to have been quite well maintained, an outcome that reflected the continuation of zero-rate financing packages offered by the automakers, widespread price discounting, and low interest rates. In an environment of very low mortgage interest rates, household demand for housing remained at a relatively high level, and financial resources freed up by a rapid pace of mortgage refinancing activity also supported consumer spending.

Nonetheless, the evidence of emerging stabilization in the economy was quite tentative and limited, and the Committee saw subpar economic performance as likely to persist over the near term. Moreover, in the probable absence of significant inflationary pressures for some time, a modest easing action could be reversed in a timely manner if it turned out not to be needed. In view of these considerations, the FOMC lowered its target for the federal funds rate ¼ percentage point, to 1¾ percent, on December 11, 2001, and stated that it continued to judge the risks to the outlook to be weighted mainly toward economic weakness. As had been the case throughout the year, the Board of Governors approved reductions in the discount rate that matched the FOMC's cuts in the target federal funds rate, bringing the discount rate to 1¼ percent, its lowest level since 1948.

Subsequent news on economic activity bolstered the view that the economy was beginning to stabilize. The information reviewed at the January 29–30, 2002, FOMC meeting indicated that consumer spending had held up remarkably well, investment orders had firmed further, and the rate of decline in manufacturing production had lessened toward the end of 2001. With weakness in business activity abating, and monetary policy already having been eased substantially, the FOMC left the federal funds rate unchanged at the close of its meeting, but it continued to see the risks to the outlook as weighted mainly toward economic weakness.

Economic Projections for 2002

Federal Reserve policymakers are expecting the economy to begin to recover this year from the mild downturn experienced in 2001, but the pace of expansion is not projected to be sufficient to cut into the margin of underutilized resources. The central tendency of the real GDP growth forecasts made by the members of the Board of Governors and the Federal Reserve Bank presidents is 2½ percent to 3 percent, measured as the change between the final quarter of 2001 and the final quarter of this year. The pace of expansion is likely to increase only gradually over the course of the year, and the unemployment rate is expected to move higher for a time. The FOMC members project the civilian unemployment rate to stand at about 6 percent to 6¼ percent at the end of 2002.

A diminution of the rate of inventory liquidation is likely to be an important factor helping to buoy production this year. In 2001, businesses cut inventories sharply so as to avoid carrying excessive stocks relative to the weaker pace of sales, and although this process of liquidation probably is not yet complete in many industries, the overall pace of reduction is likely to slow. Then, as final demand strengthens, liquidation should give way to some restocking later in the year.

As noted above, the forces affecting demand this year are mixed. On the positive side are the stimulative effects of both fiscal policy and the earlier monetary policy actions. A gradual turnaround in employ-

Economic projections for 2002
Percent

Indicator	Memo: 2001 actual	Federal Reserve Governors and Reserve Bank presidents	
		Range	Central tendency
Change, fourth quarter to fourth quarter[1]			
Nominal GDP	1.9	3½–5½	4–4½
Real GDP	.1	2–3½	2½–3
PCE chain-type price index	1.3	1–2	About 1½
Average level, fourth quarter			
Civilian unemployment rate	5.6	5¾–6½	6–6¼

1. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.

ment and a strengthening of the economies of our major trading partners should provide some lift to final demand, and spending by both households and businesses ought to be supported by robust productivity growth. On the other hand, the problems facing the high-tech sector have not yet completely receded, and indications are that spending on other types of capital equipment remains lackluster. The surprising strength of household spending through this period of economic weakness suggests a lack of pent-up consumer demand going forward. In addition, consumers likely will not benefit from declining energy prices to the extent they did last year, and the net decline in equity values since mid-2000 will probably continue to weigh on consumption spending in the period ahead.

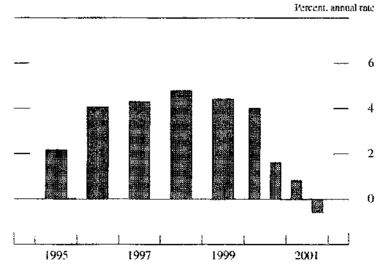
Federal Reserve policymakers believe that consumer prices will increase slightly more rapidly in 2002 than in 2001, as last year's sharp decline in energy prices is unlikely to be repeated. The central tendency of the FOMC members' projections for increases in the chain-type price index for personal consumption expenditures (PCE) is about 1½ percent; last year's actual increase was about 1¼ percent. Nevertheless, diminished levels of resource utilization, the indirect effects of previous declines in energy prices on firms' costs, and continued competitive pressures all ought to restrain the pace of price increases outside of the energy sector this year.

ECONOMIC AND FINANCIAL DEVELOPMENTS IN 2001 AND EARLY 2002

In 2001, the economy turned in its weakest performance in a decade. Real GDP increased at an annual rate of ¾ percent in the first half of the year and, according to the advance estimate from the Commerce Department, declined at a ½ percent annual rate in the second half. Although the effects of the weakening economy were broadly felt, the factory sector was especially hard hit. Faced with slumping demand both here and abroad, manufacturers cut production aggressively to limit excessive buildups of inventories. Moreover, businesses sharply reduced their investment spending, with particularly dramatic cuts in outlays for high-technology equipment. By contrast, household spending was reasonably well maintained, buoyed by lower interest rates and cuts in federal taxes. Firms trimmed payrolls through most of the year, and the unemployment rate moved up nearly 2 percentage points to around 5¾ percent by year-end. Job losses were especially large following the terrorist attacks of September 11, which had extremely adverse effects on certain sectors of the economy—most notably, airline transportation and hospitality industries. Nevertheless, by early this year some signs appeared that the economy was beginning to mend.

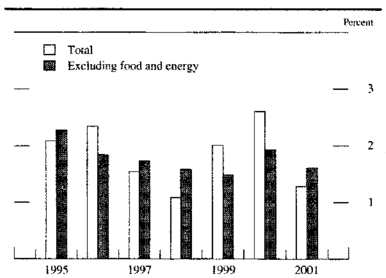
Inflation declined last year, pulled down by a sharp drop in energy prices. Excluding food and energy items, consumer price inflation leveled off and, by some measures, moved lower last year. Weakening economic activity, the indirect effects of declining energy prices on firms' costs, and continued strong competitive pressures helped keep a lid on core consumer price inflation.

Change in real GDP



Note. Here and in subsequent charts, except as noted, annual changes are measured from Q4 to Q4, and change for a half-year is measured between its final quarter and the final quarter of the preceding period.

Change in PCE chain-type price index



Note. The data are for personal consumption expenditures (PCE).

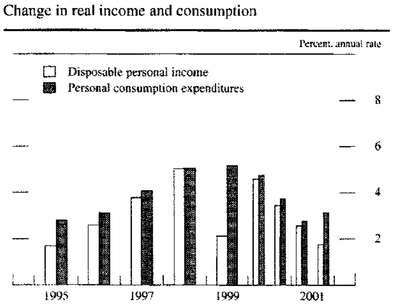
The Household Sector

Consumer Spending

Growth in consumer spending slowed last year but remained sufficiently solid to provide an important source of support to overall final demand. Personal consumption expenditures (PCE) increased 3 percent in real terms in 2001 after having advanced 4¼ percent in 2000 and around 5 percent in both 1998 and 1999. The deceleration in consumer spending was widespread among durable goods, nondurable goods, and services. However, motor vehicle expenditures remained strong through most of the year and surged in the fall as consumers responded enthusiastically to automakers' aggressive expansion of financing incentives. After September 11, spending declined in certain travel- and tourism-related categories, including air transportation, hotels and motels, and recreation services such as amusement parks; spending in these categories has recovered only partially since then.

Last year's downshift in consumption growth reflected the weakening labor market and associated deceleration of income as well as the erosion in household wealth since the middle of 2000. With employment declining over much of last year, real personal income rose only about 1¾ percent after a gain of 4½ percent in 2000. The slowing of income growth was even sharper in nominal terms, but price declines for gasoline and other energy items in the latter half of the year substantially cushioned the blow to real incomes. A continued rise in house prices supported the wealth position of many households; in the aggregate, however, household wealth deteriorated further as equity prices moved lower, on net. The decline in wealth since mid-2000 likely

Change in real income and consumption

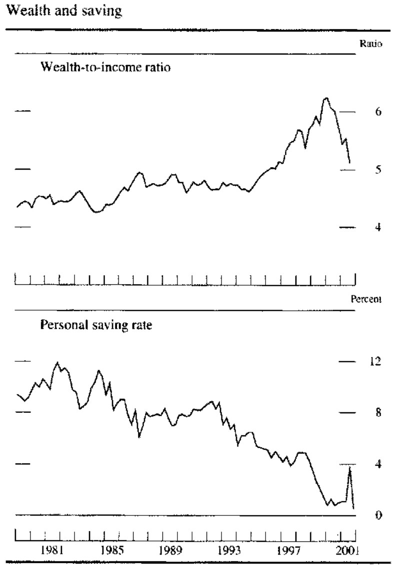


exerted a notable restraining influence on household spending last year.

Both monetary and fiscal policy supported consumer spending over the past year. Low interest rates helped enable motor vehicle finance companies to offer favorable financing on new vehicles. In addition, low mortgage rates led to a spate of mortgage refinancing that lasted most of the year, lowering payments and freeing cash to be used by households for other spending needs. Indeed, many households apparently used these refinancings as an opportunity to extract equity from their homes, a move that further accommodated consumer spending. Furthermore, the first wave of tax reductions from the Economic Growth and Tax Relief Reconciliation Act of 2001—including the $300 and $600 rebate checks mailed last summer—likely helped to boost spending in the latter part of the year. The continued phase-in of the tax reductions enacted last year should provide further stimulus to income and consumption this year.

The personal saving rate, which had declined through 1999, leveled off in 2000 and in the first half

Wealth and saving



Note. The data are quarterly. The wealth-to-income ratio is the ratio of household net worth to disposable personal income and extends through 2001:Q3; the personal saving rate extends through 2001:Q4.

of 2001. The saving rate moved erratically in the second half of the year but rose on average. It shot up in the summer as households received their tax rebates; it then declined later in the year as households spent some of the rebates and as purchases of new motor vehicles soared in response to the incentives.

Consumer sentiment, as measured by both the University of Michigan Survey Research Center (SRC) and the Conference Board, had been running at extremely high levels through most of 2000 but fell considerably near the beginning of last year as concerns about the economy intensified. By the spring, measures of sentiment leveled off near their historical averages and well above levels normally associated with recessions. Sentiment dropped in September. The SRC measure recovered gradually thereafter, while the Conference Board index fell further before turning up later in the year; by early 2002, both sentiment measures again stood near their historical averages.

Residential Investment

As with consumer spending, real expenditures on housing were well maintained last year, buoyed by favorable mortgage interest rates. Interest rates on thirty-year fixed-rate mortgages, which had been as high as 8½ percent in the spring of 2000, hovered around the low level of 7 percent in the first half of 2001. They moved down further to 6½ percent by late October, before backing up to 7 percent again by December as prospects for the economy improved. As monetary policy eased, contract rates on adjustable-rate mortgages moved down sharply to very low levels in the fourth quarter and into early 2002. According to the Michigan SRC survey, declining mortgage rates have helped elevate consumers' assessments of homebuying conditions substantially since mid-2000.

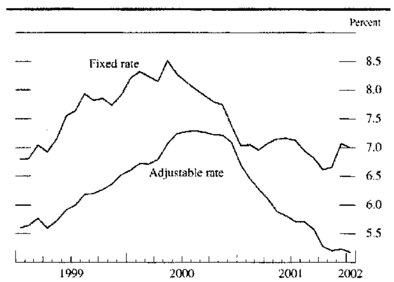
In the single-family sector, 1.27 million new homes were started last year, 3½ percent more than in 2000, when activity had been held down by higher mortgage rates. The pace of starts moved up further in January 2002, in part because of unusually favorable weather. Furthermore, sizable backlogs of building permits early this year suggest that construction activity will remain solid. Sales of new homes were elevated throughout 2001—indeed, for the year, they were the highest on record—and sales of existing homes remained strong as well. Meanwhile, the increase in home prices moderated last year. The constant-quality price index of new homes, which attempts to control for the mix of homes sold, rose only 1½ percent last year, down from a 6 percent gain in 2000.

In the multifamily sector, starts averaged 328,000 units last year, a rate close to the solid pace of the past several years. Conditions are still relatively favorable for the construction of multifamily units. In particular, vacancy rates have remained low, although rents and property values increased at a slower rate last year than in 2000.

Household Finance

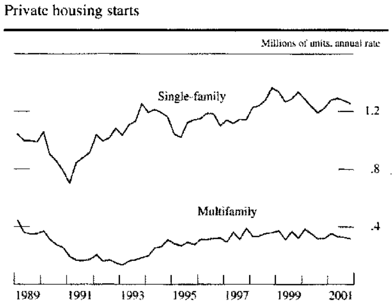
Households continued to borrow at a brisk pace last year, increasing their debt outstanding an estimated 8¾ percent, a rate about 1 percentage point faster

Mortgage rates



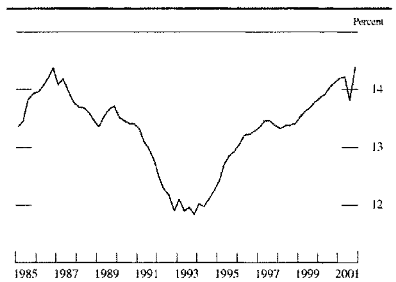
Note. The data, which are monthly and extend through January 2002, are contract rates on thirty-year mortgages from the Federal Home Loan Mortgage Corporation.

Private housing starts



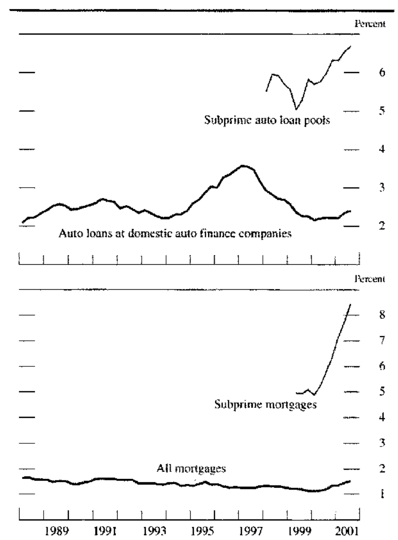
Note. The data are quarterly.

Household debt service burden



Note. The data are quarterly; 2001:Q4 is a preliminary estimate. Debt burden is an estimate of the ratio of debt payments to disposable income; debt payments consist of the estimated required payments on outstanding mortgage and consumer debt.

Delinquency rates on selected types of household loans



Note. The data are quarterly and extend through 2001:Q3.
Source. For auto loans, the Big Three automakers and Moody's Investors Service; for mortgages, the Mortgage Bankers Association and the Mortgage Information Corporation.

than the average growth over the previous two years. The cumulative declines in mortgage interest rates encouraged households to take on large amounts of mortgage debt, both by fostering homebuying and by making it attractive to refinance existing mortgages and extract some of the accumulated equity; indeed, the Mortgage Bankers Association (MBA) refinancing index in October reached the highest level since its inception in January 1980. The frenzied pace of refinancing activity tailed off some later in the fourth quarter, when fixed mortgage interest rates backed up. All told, mortgage debt grew an estimated 9 percent last year. Strength in durable goods outlays supported growth in consumer credit (debt not secured by real estate) in the first quarter of 2001, but as consumption spending decelerated over the next two quarters, the expansion of consumer credit slowed sharply. However, consumer credit growth surged in the fourth quarter, in large part because of the jump in motor vehicle sales. For the year as a whole, the rate of expansion of consumer credit, at 6¼ percent, was well below the 10¼ percent rate posted in 2000.

Hefty household borrowing outstripped the growth of disposable personal income in 2001. As a result, despite lower interest rates, the household debt-service burden—an estimate of minimum scheduled payments on mortgage and consumer debt as a share of disposable income—finished the year near the peak recorded at the end of 1986. Measures of household credit quality deteriorated noticeably last year. According to the MBA, delinquency rates on home mortgages continued to trend higher from their historic lows of the late 1990s, and auto loan delinquencies at finance companies edged up, although they too remained at a relatively subdued level. The economic slowdown and the rise in unemployment significantly eroded the quality of loans to subprime borrowers, and delinquency rates for both mortgages and consumer credit in that segment of the market moved sharply higher.

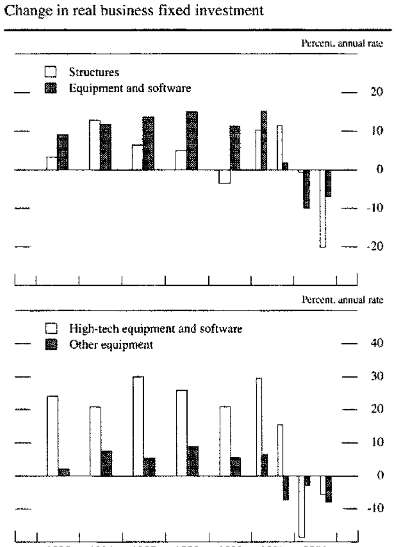
The Business Sector

Much of the weakness in activity last year was concentrated in the business sector. In late 2000, manufacturers had begun to cut back production in an effort to reduce an undesired build-up of inventories, and sharp inventory liquidation continued throughout last year. Moreover, the boom in capital outlays that had helped drive the expansion through the late 1990s gave way to a softening of spending in late 2000 and to sharp declines last year. Spending dropped for most types of capital equipment and structures; cutbacks were especially severe for high-tech equipment, some types of which may have been overbought. A sharp reduction in corporate profits and cash flow contributed to last year's downturn in capital spending, as did general uncertainty about the economic outlook. Despite the reduction in interest rates, which helped restrain businesses' interest expenses, financing conditions worsened somewhat, on balance, given weaker equity values, higher borrowing costs for risky firms, and some tightening of banks' lending standards.

Fixed Investment

Real spending on equipment and software (E&S) declined 8½ percent in 2001 after an increase of the same amount in 2000 and double-digit rates of increase for several preceding years. Spending on high-tech equipment, which has accounted for about 40 percent of E&S spending in recent years, dropped especially sharply last year. Outlays for computers and peripheral equipment, which had risen more than 30 percent in each of the preceding seven years, fell 9 percent in 2001. Spending on communications equipment swung even more severely, moving from increases of more than 20 percent on average from 1998 to 2000 to a decline of more than 30 percent last year. Business spending on software held up comparatively well, falling only 2½ percent in 2001 after having risen around 12 percent in 1999 and 2000.

Change in real business fixed investment



Note. High-tech equipment includes computers and peripheral equipment and communications equipment.

A number of factors may have weighed on outlays for high-tech equipment, including businesses' decisions to lengthen the replacement cycle for computers in light of weak economic conditions and the absence of new applications requiring the most up-to-date machines. But in addition, the magnitude by which these categories of expenditure had increased in preceding years, together with the abruptness of their downturn, suggests that firms may have been too optimistic about the immediate profitability of some types of high-tech capital; as these expectations were revised, businesses viewed their previous investment as more than sufficient to meet anticipated demand. This possibility is especially likely in the case of communications equipment, for which expectations about prospects for growth in demand appear to have been disappointed. Some of the cutbacks may have reflected a general pulling back in an environment of greater uncertainty. The sharp rise and subsequent decline of equity values in the high-tech sector mirrors the pattern of rising and slowing investment and provides some support for the notion that earnings expectations may have been overly upbeat in the past.

Under the influence of ongoing weakness in the market for heavy trucks, business spending on motor vehicles declined through most of the year. But spending stabilized in the fourth quarter, as the generous incentives on motor vehicles may have helped boost spending by small businesses as well as consumers. Domestic orders for new aircraft declined last year, especially after the terrorist attacks last fall, but these lower orders had not yet affected spending by year-end because of the very long lags involved in producing planes. Apart from spending on transportation and high-tech equipment, real outlays declined 7½ percent last year after having increased 6 percent in 2000, with the turnaround driven by a sharp swing in spending on many types of industrial machinery and on office furniture.

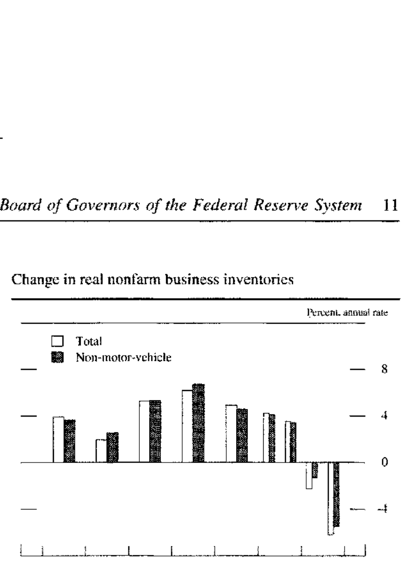
Late last year, conditions in some segments of the high-tech sector showed signs of bottoming. Developments in the semiconductor industry have improved, with production increasing during the fall. Some of the improvement is apparently coming from increased demand for computers. In the advance estimate from the Commerce Department for the fourth quarter, real spending on computers and peripheral equipment was reported to have surged at an annual rate of 40 percent. However, spending on communications equipment, for which evidence of a capital overhang has been most pronounced, continued to decline sharply in the fourth quarter, and orders for communications equipment have yet to display any convincing signs of turning around. As for other types of capital equipment, spending continued to decline in the fourth quarter, but a moderate rebound in new orders for many types of capital goods from their autumn lows hinted that a broader firming of demand may be under way.

Real business spending for nonresidential structures also declined sharply in 2001. Construction of office buildings dropped last year after having increased notably for several years; industrial building remained fairly steady through the first half of last year but plummeted in the second half. Vacancy rates for these two types of properties rose considerably, and by year-end the industrial vacancy rate had reached its highest level since mid-1993. Meanwhile, spending on non-office commercial buildings (a category that includes retail, wholesale, and some warehouse space) decreased moderately last year. Investment in public utilities moved down as well, a decline reflecting, in part, a cutback in spending for communications projects such as the installation of fiber-optic networks. Investment in the energy sector was a pocket of strength last year. Construction of drilling structures surged in 2000 and much of 2001, as the industry responded to elevated prices of oil and natural gas. However, with oil and natural gas prices reversing their earlier increases, drilling activity turned down in the latter part of the year.

Inventory Investment

By late 2000, manufacturers were already cutting production to slow the pace of inventory accumulation as inventories moved up relative to sales. Production cuts intensified in early 2001, and producers and distributers liquidated inventories at increasing rates throughout the year. The runoff of inventories was a major factor holding down GDP growth last year. Indeed, the arithmetic subtraction from real GDP growth attributable to the decline in nonfarm inventory investment was 1½ percentage points over the four quarters of 2001. However, because sales also were weakening, inventory-sales ratios remained high in much of the manufacturing sector, and in some portions of the wholesale sector as well, throughout the year.

Change in real nonfarm business inventories



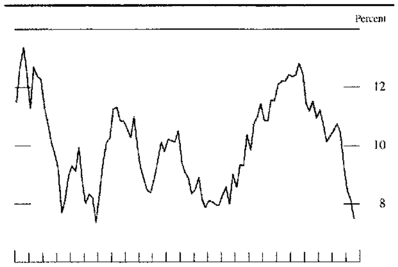
The motor vehicle sector accounted for about one-quarter of last year's overall inventory drawdown. Late in 2000 and early last year, automakers cut production in an attempt to clear out excess stocks held by dealers. By the spring, vehicle assemblies had stabilized, and the automakers instead dealt with heavy stocks by further sweetening incentives to boost sales. By the end of the year, inventories of cars and light trucks stood at a relatively lean 2¼ million units, nearly 1 million units fewer than were held a year earlier.

Corporate Profits and Business Finance

The profitability of the U.S. nonfinancial corporate sector suffered a severe blow in 2001. The profit slump had begun in the fourth quarter of the previous year, when the economic profits of nonfinancial corporations—that is, book profits from current production with inventory and capital consumption adjustments compiled by the Commerce Department—plummeted almost 45 percent at an annual rate. The first three quarters of 2001 brought little respite, and economic profits spiraled downward at an average annual rate of 25 percent. The ratio of the profits of nonfinancial corporations to the sector's gross nominal output fell to 7½ percent last year, a level not seen since the early 1980s. Earnings reports for the fourth quarter indicate that nonfinancial corporate profits continued to fall late in the year.

Business borrowing slowed markedly last year because firms slashed investment in fixed capital and inventories even more than the drop in profits and other internally generated funds. Business debt expanded at a 6¼ percent annual rate in 2001, well below the double-digit rates of the two previous

Before-tax profits of nonfinancial corporations
as a percent of sector GDP

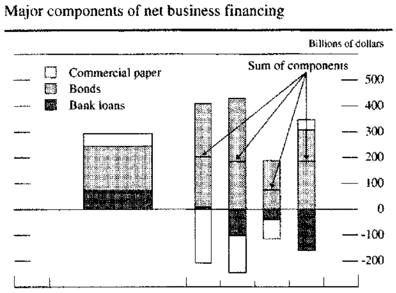


Note. The data are quarterly and extend through 2001:Q3. Profits are from domestic operations of nonfinancial corporations, with inventory valuation and capital consumption adjustments.

years, and its composition shifted decidedly toward longer-term sources of funds. Early in the year, favorable conditions in the corporate bond market, combined with firms' desire to lock in low interest rates, prompted investment-grade firms to issue a high volume of bonds. They used the proceeds to strengthen their balance sheets by repaying short-term debt obligations, refinancing other longer-term debt, and building up liquid assets. Junk bond issuance was also strong early in 2001, as speculative-grade yields fell in response to monetary policy easings, although investors shunned the riskiest issues amid increasing economic uncertainty and rising defaults among below-investment-grade borrowers.

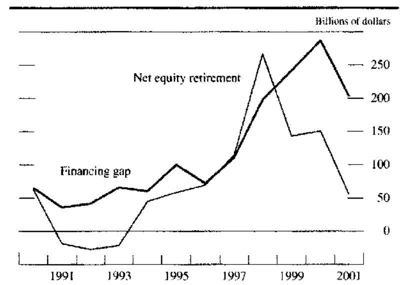
The heavy pace of bond issuance, along with a reduced need to finance capital investments, enabled firms to decrease their business loans at banks and

Major components of net business financing



Note. Seasonally adjusted annual rate for nonfarm nonfinancial corporate business. The data for 2001:Q4 are estimated.

Financing gap and net equity retirement
at nonfarm nonfinancial corporations



Note. The data are annual; 2001 is based on partially estimated data. The financing gap is the difference between capital expenditures and internally generated funds. Net equity retirement is the difference between equity retired through share repurchases, domestic cash-financed mergers, or foreign takeovers of U.S. firms and equity issued in public or private markets, including funds invested by venture capital partnerships.

their commercial paper outstanding. The move out of commercial paper also reflected elevated credit spreads between high- and low-tier issuers resulting from the defaults of California utilities and several debt downgrades among prominent firms early in the year. Announcements of new equity share repurchase programs thinned considerably in the first half of the year, as firms sought to conserve their cash buffers in response to plummeting profits. A significant slowdown in cash-financed merger activity further damped equity retirements, although these retirements still outpaced gross equity issuance, which was restrained by falling share prices. Over the summer, issuance of investment-grade bonds dropped off appreciably. Moreover, market sentiment toward speculative-grade issues cooled, as further erosion in that sector's credit quality took its toll. Business loans and outstanding commercial paper continued to contract, and with share prices in the doldrums, nonfinancial firms raised only a small amount of funds in public equity markets in the third quarter.

The terrorist attacks on September 11 constricted corporate financing flows for a time. The stock market closed for that week, and trading in corporate bonds came to a virtual halt. After the shutdown of the stock market, the Securities and Exchange Commission, in an effort to ensure adequate liquidity, temporarily lifted some restrictions on firms' repurchases of their own shares. According to reports from dealers, this change triggered a spate of repurchases in the first few days after the stock markets reopened on September 17. When full-scale trading in corpo-

Spreads of corporate bond yields over the ten-year swap rate

Note. The data are daily and extend through February 21, 2002. The spreads compare the yields on the Merrill Lynch AA, BBB, and 175 indexes with the ten-year swap rate.

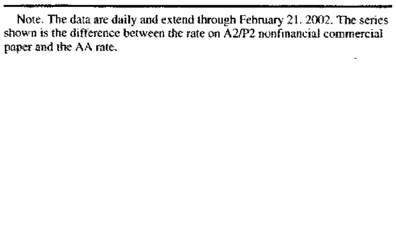
rate bonds resumed on September 17, credit spreads on corporate bonds widened sharply: Risk spreads on speculative-grade private debt soared to levels not seen since late 1991, and spreads on investment-grade corporate bonds also moved higher, although by a considerably smaller amount. Against this backdrop, junk bond issuance nearly dried up for the rest of the month. Commercial paper rates—even for top-tier issuers—jumped immediately after the attacks, as risk of payment delays increased. In response to elevated rates, some issuers tapped their backup lines at commercial banks, and business loans spiked in the weeks after the attacks. Risk spreads for low-tier borrowers in the commercial paper market remained elevated, even after market operations had largely recovered, because of ongoing concerns about credit quality and ratings downgrades among some high-profile issuers in the fall.

By early October, the investment-grade corporate bond market had largely recovered from the disruptions associated with the terrorist attacks, and bond issuance in that segment of the market picked up considerably. Firms capitalized on relatively low longer-term interest rates to pay down short-term obligations, to refinance existing higher-coupon debt, and to boost their holdings of liquid assets. With high-yield bond risk spreads receding moderately, issuance in the speculative-grade segment of the corporate bond market stirred somewhat from its moribund state, although investors remained highly selective. Public equity issuance, after stalling in September, also regained some ground in the fourth quarter, spurred by a rebound in stock prices. As was the case for most of the year, initial public offerings and venture capital financing remained at depressed levels.

Commercial paper issuance recovered somewhat early in the fourth quarter as firms repaid bank loans made in the immediate aftermath of the terrorist attacks and as credit spreads for lower-rated issuers started to narrow. However, the collapse of the Enron Corporation combined with typical year-end pressures to widen quality spreads in early December. All told, the volume of domestic nonfinancial commercial paper outstanding shrank by one-third over the year as a whole. Business loans at banks fell further in the fourth quarter; for the year, business loans contracted 4¼ percent, their first annual decline since 1993.

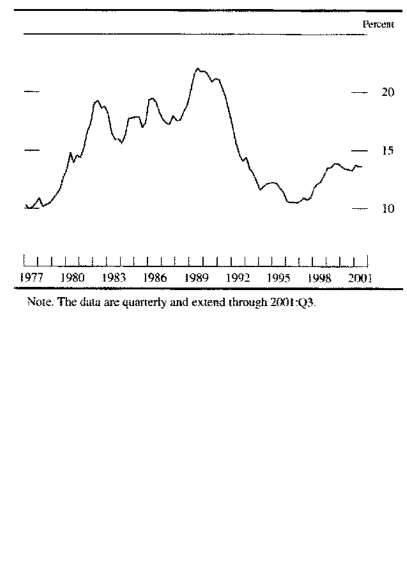
The slowing of sales and the drop in profits caused corporate credit quality to deteriorate noticeably last

Spread of low-tier CP rates over high-tier CP rates



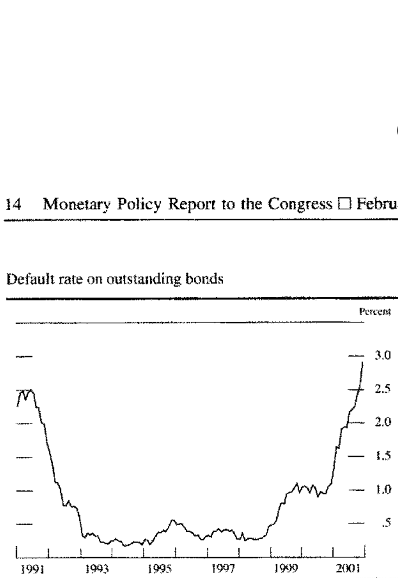
Note. The data are daily and extend through February 21, 2002. The series shown is the difference between the rate on A2/P2 nonfinancial commercial paper and the AA rate.

Net interest payments of nonfinancial corporations relative to cash flow



Note. The data are quarterly and extend through 2001:Q3.

Default rate on outstanding bonds



Note. The data are monthly; the series shown is a twelve-month moving average.

year. In part because of the decline in market interest rates, the ratio of net interest payments to cash flow in the nonfinancial corporate sector moved only modestly above the relatively low levels of recent years, and most firms did not experience significant difficulties servicing their debt. However, many firms were downgraded, and evidence of financial distress mounted over the course of the year. The twelve-month trailing average of the default rate on corporate bonds nearly tripled last year and by December ran almost ½ percentage point higher than its peak in 1991. Delinquency rates on business loans at banks also rose, although not nearly as dramatically. The amount of nonfinancial debt downgraded by Moody's Investors Service last year was more than five times the amount upgraded; downgrades were especially pronounced in the fourth quarter, when ratings agencies lowered debt ratings of firms in the telecommunication, energy, and auto sectors.

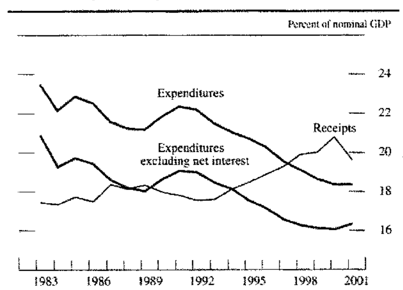
Commercial mortgage debt, supported by still-strong construction spending, expanded at a brisk 10 percent pace over the first half of 2001. The growth of commercial mortgage debt edged down only ½ percentage point in the second half, despite a sharp slowdown in business spending on nonresidential structures. As a result, the issuance of commercial-mortgage-backed securities (CMBS) maintained a robust pace throughout the year. Available data indicate some deterioration in the quality of commercial real estate credit. Delinquency rates on commercial real estate loans at banks rose steadily in 2001 and have started to edge out of their recent record-low range. In addition, CMBS delinquency rates increased, especially toward the end of the year, amid the rise in office vacancy rates. Despite the erosion in credit quality in commercial real estate and heavy issuance of CMBS, yield spreads on investment-grade CMBS over swap rates were about unchanged over the year, suggesting that investors view credit problems in this sector as being contained. Commercial banks, however, stiffened their lending posture in response to eroding prospects for the commercial real estate sector; significant net fractions of loan officers surveyed over the course of the year reported that their institutions had firmed standards on commercial real estate loans.

The Government Sector

Federal Government

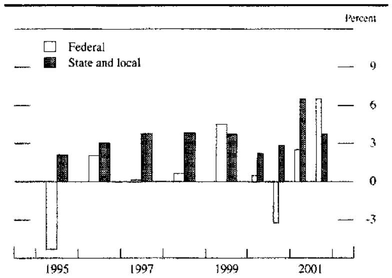
Deteriorating economic conditions and new fiscal initiatives have led to smaller federal budget surpluses than had been anticipated earlier. The fiscal 2001 surplus on a unified basis was $127 billion, or about 1¼ percent of GDP—well below both the record $236 billion surplus recorded in fiscal 2000 and the $281 billion surplus that the Congressional Budget Office had anticipated for fiscal 2001 at this time last year. Receipts, which had increased at least 6 percent in each of the preceding seven fiscal years, declined around 2 percent in fiscal 2001; the rise in individual tax receipts slowed dramatically and corporate receipts plunged 27 percent. The lower receipts reflected both the weakening economy—specifically, slow growth of personal income, the drop in corporate profits, and a pattern of declines in equity values that led to lower net capital gains realizations—and changes associated with the Economic Growth and Tax Relief Reconciliation Act of 2001. Some provisions of the act went into effect

Federal receipts and expenditures

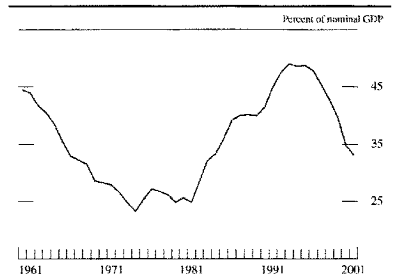


Note. The data are from the unified budget and are for fiscal years.

Change in real government expenditures on consumption and investment



Federal government debt held by the public

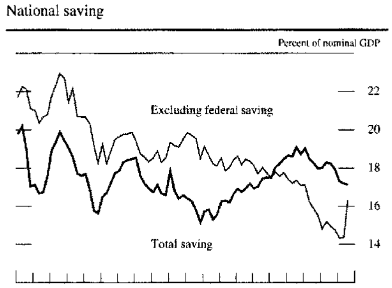


Note. The data are as of the end of the fiscal year. Excludes debt held in federal government accounts and by the Federal Reserve System.

immediately, including the rebate checks that were mailed last summer. In addition, the act shifted some corporate tax payments into fiscal 2002.

Meanwhile, outlays were up 4 percent in fiscal 2001; abstracting from a decline in net interest payments, outlays increased nearly 6 percent, a second year of increases larger than had prevailed for some time. Outlays have increased across all major categories of expenditure, including defense, Medicare and Medicaid, and social security. As for the part of federal spending that is counted in GDP, real federal outlays for consumption and gross investment increased somewhat more rapidly than in recent years through the first three quarters of 2001 as defense expenditures picked up. Spending rose faster still in the fourth quarter because of increases for homeland security and the additional costs associated with the war in Afghanistan.

National saving



Note. The data are quarterly and extend through 2001:Q3. National saving comprises the gross saving of households, businesses, and governments.

The existence of surpluses through fiscal 2001 meant that the federal government continued to contribute to the pool of national saving. Nevertheless, gross saving by households, businesses, and governments has been trending down over the past few years from the recent high of around 19 percent of GDP in 1998.

The Treasury used federal budget surpluses over the first half of the year to pay down its outstanding marketable debt. In the third quarter, however, the cut in personal income taxes and a weakening in receipts as the economy contracted led the Treasury to reenter the credit markets as a significant borrower of new funds. The Treasury's budget position swung back into surplus late in the year owing to somewhat stronger-than-expected tax receipts, which helped push fourth-quarter net borrowing below its third-quarter level. Despite the increase in the Treasury's net borrowing over the second half of the year, publicly held debt remained at only about one-third of nominal GDP last year, its lowest level since the mid-1980s and well below the 1993 peak of almost 50 percent.

The terrorist attacks on September 11 and the associated disruptions to financial markets had some spillover effects on Treasury financing. On the day of the attacks, the Treasury cancelled its scheduled bill auction; over the next several days, it drew down nearly all of its compensating balances with commercial banks—about $12½ billion in total—to meet its obligations. On Thursday of that week, the settlement of securities sold the day before the attacks eased the Treasury's immediate cash squeeze, and the incoming stream of estimated quarterly personal income tax payments provided additional funds. Infrastructure problems involving the trading and clearing of Treasury securities were largely resolved over the following week, and when the Treasury resumed its regular bill issuance on September 17, exceptionally strong demand for bills pushed stop-out rates—that is, the highest yield accepted during the auction—to their lowest level since 1961. Although the Treasury cancelled debt buybacks scheduled for late September to conserve cash, it later announced that buyback operations would begin again in October.

With its credit needs still limited, the Treasury announced on October 31 that it was suspending issuance of nominal and inflation-indexed thirty-year securities. Subsequently, the thirty-year Treasury bond yield fell sharply, bid-asked spreads on outstanding bonds widened, and liquidity in the bond sector deteriorated. Although bid-asked spreads narrowed over the balance of the year, market participants reported that liquidity in the bond sector remained below its level before the Treasury's announcement. The announcement on October 31 also indicated that after the January 2002 buyback operations, the Treasury would determine the amount and timing of buybacks on a quarter-by-quarter basis, thereby fueling speculation that future buybacks might be scaled back in light of the changed budget outlook.

State and Local Governments

Real expenditures for consumption and gross investment by states and localities rose 5 percent last year after an increase of 2½ percent in 2000. Much of the acceleration reflected a burst of spending on construction of schools and other infrastructure needs. In addition, outlays at the end of last year were boosted by the cleanup from the September 11 attacks in New York. As for employment, state and local governments added jobs in 2001 at a more rapid pace than they did over the previous year and thereby helped to offset job losses in the private sector.

The fiscal condition of state and local governments has been strained by the deterioration in economic performance. State governments are considering a variety of actions to achieve budget balance in the current fiscal year. Most states are intending to cut planned expenditures, and many are considering drawing down rainy-day funds, which governments had built up in earlier years. According to the National Conference of State Legislators, these rainy-day funds stood at the relatively high level of \$23 billion at the end of fiscal 2001 (June 30). Moreover, some states that had planned to fund capital expenditures with current receipts appear to be shifting to debt financing. Finally, a few states are considering actions such as postponing tax cuts that were enacted earlier.

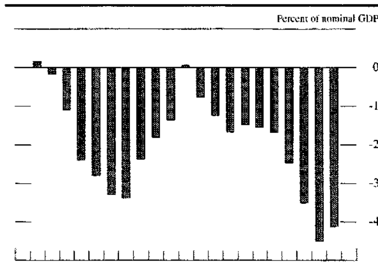
Debt of the state and local government sector expanded rapidly last year after slow growth in 2000. Gross issuance of long-term municipal bonds accelerated over the first half of 2001 as state and local governments took advantage of lower yields to refund outstanding debt. Spurred by falling interest rates and declining tax revenues, these governments continued to issue long-term bonds to finance new capital projects at a rapid clip over the second half of the year. Despite a deterioration in tax receipts, credit quality in the municipal market remained high in 2001. Late in the year, however, signs of weakness had emerged, as the pace of net credit-ratings upgrades slowed noticeably. Especially significant problems continue to plague California and New York, both of which saw their debt ratings lowered in November. In California, the problems were attributed to declining tax revenues and difficulties related to the state's electricity crisis earlier in the year, while New York's slip in credit quality resulted not only from deteriorating tax receipts but also from fears of higher-than-expected costs related to clean up and rebuilding after the terrorist attacks.

The External Sector

Trade and the Current Account

The U.S. current account deficit narrowed significantly during 2001, with both imports and exports of goods and services falling sharply in response to a global weakening of economic activity. The deficit in

U.S. current account



Note. The observation for 2001 is the average of the first three quarters.

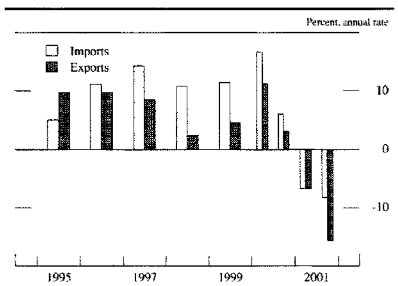
goods and services narrowed to $333 billion at an annual rate in the fourth quarter of 2001 from $401 billion at the end of the previous year. In addition, the deficit was temporarily reduced further in the third quarter because service import payments were lowered by a large one-time estimated insurance payment from foreign insurers (reported on an accrual basis) related to the events of September 11.[1] Excluding the estimated insurance figure, the current account deficit was $434 billion at an annual rate over the first three quarters of the year, or 4¼ percent of GDP, compared with $445 billion and 4½ percent for the year 2000. Net investment income payments were about the same during the first three quarters of 2001 as in the corresponding period a year earlier; higher net payments on our growing net portfolio liability position were offset by higher net direct investment receipts.

U.S. real exports were hit by slower growth abroad, continued appreciation of the dollar, and plunging global demand for high-tech products. Real exports of goods and services fell 11 percent over the four quarters of 2001, with double-digit declines beginning in the second quarter. Service receipts decreased 7 percent; all of the decline came after the events of September 11. Receipts from travel and passenger fares, which plunged following the terrorist attacks, were about one-fourth lower in the fourth quarter than in the second quarter. Receipts from foreigners for other services changed little over the year. Exports declined in almost all major goods categories, with the largest drops by far in high-tech capital goods and other machinery. Two exceptions were exports of automotive products, which rose during the second and third quarters (largely parts to Canada and Mexico destined ultimately for use in U.S. markets, and vehicles to Canada), and agricultural goods. About 45 percent of U.S. exports of goods were capital equipment; 20 percent were industrial supplies; and 5 percent to 10 percent each were agricultural, automotive, consumer, and other goods. The value of exported goods declined at double-digit rates for almost all major market destinations. Even exports to Canada and Mexico declined sharply, despite support from two-way trade with the United States in such sectors as automotive products.

As growth of the U.S. economy slowed noticeably, real imports of goods and services turned down and declined 8 percent for 2001 as a whole. Service payments dropped 15 percent last year. The plunge in outlays for travel and passenger fares after September 11 held down total real service payments, bringing their level in the fourth quarter 15 percent below that in the second quarter. Spending on services other than travel and passenger fares changed little during the year.[2] Imported goods fell 6 percent last year, with much of the decrease in capital goods (computers, semiconductors, and other machinery). In contrast, real imports of automotive products, consumer goods, oil, and other industrial supplies were little changed, and imports of foods rose. The pattern of import growth appears to have shifted toward the end of the year. Imports of real non-oil goods declined at about a 10 percent annual rate during the first three quarters of the year but fell less rapidly in the fourth quarter. The price of imported non-oil goods, after rising in the first quarter, declined at an annual rate of about 6 percent from the second quarter through the fourth quarter, led by decreases in the price of imported industrial supplies.

The value of imported oil fell more than one-third over the four quarters of 2001, a drop resulting almost entirely from a sharp decline in oil prices. The spot price of West Texas intermediate (WTI) crude decreased about $10 per barrel during the year, with much of the decline occurring after September 11. During the first eight months of 2001, the spot price of WTI averaged $28 per barrel as weakened demand for oil and increased non-OPEC supply were largely

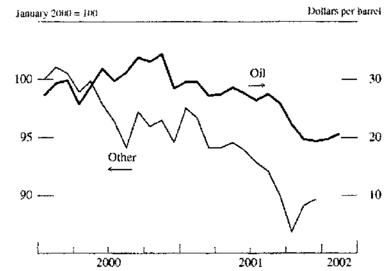
Change in real imports and exports of goods and services



1. The "insurance payment" component of imported services is calculated as the value of premiums paid to foreign companies less the amount of losses recovered from foreign companies. In the third quarter, the estimated size of losses recovered far exceeded the amount paid for insurance premiums, resulting in a negative recorded insurance payment. According to NIPA accounting, the entire amount of a recovery is recorded in the quarter in which the incident occurred.

2. According to NIPA accounting, the value of the one-time insurance payments by foreign insurers is not reflected in NIPA real imports of services. The deflator for service imports was adjusted down for the third quarter to offset the lower value of service imports; the deflator returned to its usual value in the fourth quarter.

Prices of oil and of other commodities



Note. The data are monthly; the last observation for oil is the average of trading days through February 21. 2002; the last observation for other commodities is December 2001. The oil price is the spot price of West Texas intermediate crude oil. The price of other commodities is a weighted average of thirty-nine nonfuel primary-commodity prices from the International Monetary Fund.

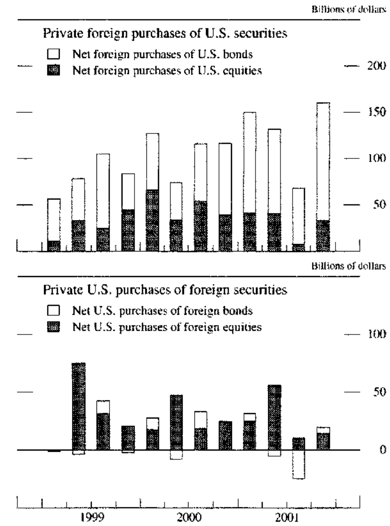
offset by OPEC production restraint. In the wake of the terrorist attacks, oil prices dropped sharply in response to a decline in jet fuel consumption, weaker economic activity, and reassurance from Saudi Arabia that supply would be forthcoming. Oil prices continued to drift lower during the fourth quarter, reflecting OPEC's apparent unwillingness to continue to sacrifice market share in order to defend higher oil prices. In late December, however, OPEC worked out an arrangement in which it agreed to reduce its production targets an additional 1.5 million barrels per day, contingent on the pledges from several non-OPEC producers (Angola, Mexico, Norway, Oman, and Russia) to reduce oil exports a total of 462,500 barrels per day. Given the uncertainty over the extent to which these reductions will actually be implemented and the comfortable level of oil inventories, the spot price of WTI remained near $20 per barrel in early 2002.

Financial Account

The slowing of U.S. and foreign economic growth over the course of last year had noticeable effects on the composition of U.S. capital flows, especially when the slowing became more pronounced in the second half. On balance, net private capital flowed in at a pace only slightly below the record set in 2000, including unprecedented net inflows through private securities transactions.

During the first half of 2001, sagging stock prices and signs of slower growth brought a shift in the types of U.S. securities demanded by private foreigners but did not reduce the overall demand for them. Indeed, during the first half, foreign private purchases of U.S. securities averaged $137 billion per quarter, a rate well above the record $109 billion pace set in 2000. A slowing of foreign purchases of U.S. equities, relative to 2000, was more than offset by a pickup in foreign purchases of corporate and agency bonds. In addition, private foreigners, who had sold a significant quantity of Treasury securities during 2000, roughly halted their sales in the first half of 2001. The increased capital inflows arising from larger foreign purchases of U.S. securities in the first half was only partly offset by an increase in the pace at which U.S. residents acquired foreign securities, especially equities.

U.S. international securities transactions



Source. Department of Commerce and the Federal Reserve Board.

The pattern of private securities transactions changed significantly in the third quarter: Foreign purchases of U.S. equities slowed markedly, and U.S. investors shifted from net purchases of foreign securities to net sales. However, the reduced flows in the third quarter seem to have reflected short-lived reactions to events in the quarter. Preliminary data for the fourth quarter show a significant bounceback in foreign purchases of U.S. securities and a return to purchases of foreign securities by U.S. residents.

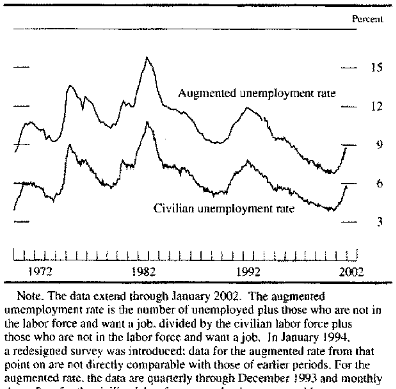
The changing economic climate also affected direct investment capital flows. During 2000, foreign direct investment in the United States averaged more than \$70 billion per quarter. These flows slowed to less than \$60 billion per quarter in the first half and then dropped to only \$26 billion in the third quarter (the last available data). The drop resulted in part from a decline in the outlook for corporate profits and a significant reduction in general merger and acquisition activity. By contrast, U.S. direct investment abroad picked up over the course of 2001. The third quarter outflow of \$52 billion—a record—reflected both a large merger and robust retained earnings by the foreign affiliates of U.S. firms. Capital inflows from official sources were relatively modest in 2001, totaling only \$15 billion, compared with \$36 billion in 2000.

The Labor Market

Employment and Unemployment

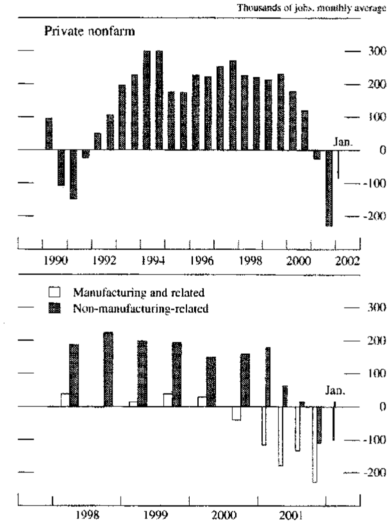
Last year's weakening in economic activity took its toll on the labor market. Payroll employment edged up early last year and then dropped nearly 1½ million by January 2002. Declines were particularly large in manufacturing, which has shed one in twelve jobs since mid-2000. Job cuts accelerated in the months following the terrorist attacks of September 11, with

Measures of labor utilization



Note. The data extend through January 2002. The augmented unemployment rate is the number of unemployed plus those who are not in the labor force and want a job, divided by the civilian labor force plus those who are not in the labor force and want a job. In January 1994, a redesigned survey was introduced; data for the augmented rate from that point on are not directly comparable with those of earlier periods. For the augmented rate, the data are quarterly through December 1993 and monthly thereafter; for the civilian labor force rate, the data are monthly.

Net change in payroll employment



Note. Manufacturing and related industries includes establishments in manufacturing, wholesale trade, and help supply services. Non-manufacturing-related industries includes the remainder of private nonfarm establishments.

declines occurring in a wide variety of industries. The unemployment rate moved up from 4 percent in late 2000 to 5.8 percent by December 2001. In January 2002, the unemployment rate edged down to 5.6 percent.

Early last year, employment in manufacturing, which had been trending down for several years, began to decline more rapidly. Job losses were widespread within the manufacturing sector but were most pronounced in durable-goods industries, such as those producing electrical and industrial machinery and metals. Employment at help supply firms and in wholesale trade—industries that are directly related to manufacturing—also began to decline. Outside of manufacturing and its related industries, private payrolls continued to increase robustly in the first quarter of last year, but hiring then slowed, although it remained positive, on net, in the second and third quarters. Construction payrolls increased into the spring but flattened out thereafter. Employment at retail trade establishments also continued to increase moderately through the spring but began to decline in the late summer. In services industries other than help supply firms—a broad group that accounted for nearly half of the private payroll increases over the preceding several years—job gains slowed but remained positive in the second and third quarters of last year. In all, private payroll employment declined about 115,000 per month in the second and third quarters, and the unemployment rate moved up steadily to 4½ percent by the spring and to nearly 5 percent by August.

The labor market was especially hard hit by the terrorist attacks. Although labor demand was weak prior to the attacks, the situation turned far worse following the events of September 11, and private payrolls plunged more than 400,000 per month on average in October and November. Employment fell substantially not only in manufacturing and in industries directly affected by the attacks, such as air transportation, hotels, and restaurants, but also in a wide variety of other industries such as construction and much of the retail sector.

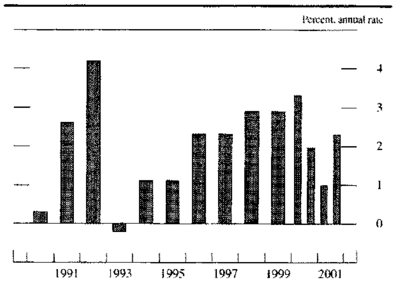
Employment continued to decline in December and January but much less than in the preceding two months. Manufacturing and its related industries lost jobs at a slower pace, and employment leveled off in other private industries. The unemployment rate moved up to 5.8 percent in December but then ticked down to 5.6 percent in January. The recent reversal of the October and November spikes in new claims for unemployment insurance and in the level of insured unemployment also point to some improvement in labor market conditions early this year.

Productivity and Labor Costs

Given economic conditions, growth of labor productivity was impressive in 2001. Productivity growth typically drops when the economy softens, partly because businesses tend not to shed workers in proportion to reduced demand. Last year, however, output per hour in the nonfarm business sector increased a relatively solid 1½ percent, according to the advance estimate, after having risen 2½ percent in 2000—a mild deceleration by past cyclical standards. Indeed, productivity is estimated to have increased at an annual rate of more than 2 percent in the second half of the year, an impressive performance during a period when real GDP was, on net, contracting. The buoyancy of productivity during 2001 provides further support to the view that the underlying trend of productivity growth has stepped up notably in recent years.

Hourly labor compensation costs increased more slowly last year than in 2000, although different

Change in output per hour

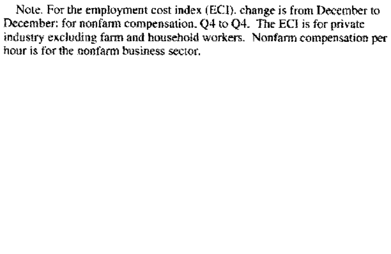


Note. Nonfarm business sector.

compensation measures paint different pictures of the magnitude of that deceleration. The slowing likely reflected the influence of the soft labor market, energy-driven declines in price inflation toward the latter part of the year, and subdued inflation expectations. Compensation probably was also held down by a reduction in variable pay, such as bonuses that are tied to company performance and stock-option activity.

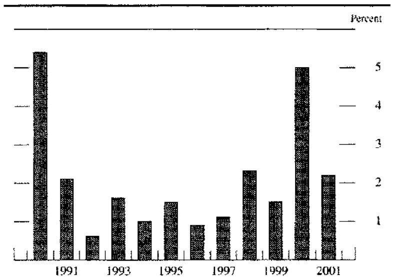
According to the employment cost index, hourly compensation costs increased 4¼ percent during 2001, down from a 4½ percent increase in 2000; both the wages and salaries and benefits components recorded slightly smaller increases. The deceleration in the index for wages and salaries was concentrated among sales workers, whose wages often include a substantial commission component and so are especially sensitive to cyclical developments. Although

Measures of the change in hourly compensation



Note. For the employment cost index (ECI), change is from December to December; for nonfarm compensation, Q4 to Q4. The ECI is for private industry excluding farm and household workers. Nonfarm compensation per hour is for the nonfarm business sector.

Change in unit labor costs



Note. Nonfarm business sector.

the increase in employers' cost of benefits slowed overall, the cost of providing health insurance increased more than 9 percent last year; the rise continued this component's accelerating contribution to labor costs over the past few years after a period of restrained cost increases in the mid-1990s.

An alternative measure of hourly compensation is the BLS's measure of compensation per hour in the nonfarm business sector, which is derived from compensation information in the national accounts; this measure increased 4 percent last year, a very large drop from the 7¾ percent increase registered in 2000. One reason that these two compensation measures may diverge is that only nonfarm compensation per hour captures the cost of stock options. Although the two compensation measures differ in numerous other respects as well, the much sharper deceleration in nonfarm compensation per hour may indicate that stock option exercises leveled off or declined in 2001 in response to the fall in equity values. However, because nonfarm compensation per hour can be revised substantially, one must be cautious in interpreting the most recent quarterly figures from this series.

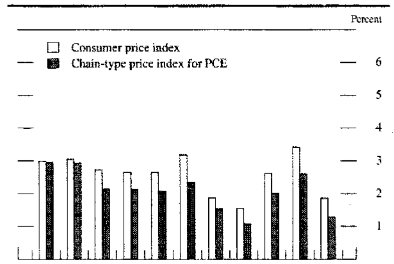
Unit labor costs, the ratio of hourly compensation to output per hour in the nonfarm business sector, increased about 2 percent last year. Although down from a huge 5 percent increase in 2000 that reflected that year's surge in nonfarm compensation per hour, the figure for 2001 is still a little higher than the moderate increases seen over the preceding several years. Last year's increase in unit labor costs was held up by the smaller productivity increases that accompanied weak economic activity; accordingly, subsequent increases in unit labor costs would be held down if output per hour begins to increase more rapidly as the economy strengthens.

Prices

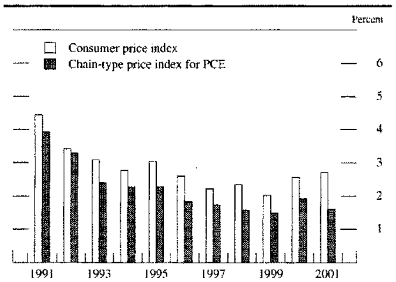
Inflation declined in 2001 largely because of a steep drop in energy prices. The chain-type price index for personal consumption expenditures (PCE) increased 1.3 percent last year after having increased 2.6 percent in 2000; the turnaround in consumer energy prices accounted for almost all of that deceleration. Increases in PCE prices excluding food and energy items also slowed a little last year after having moved up in 2000. The chain-type price index for gross domestic purchases—the broadest price measure for domestically *purchased* goods and services—decelerated considerably last year. The small increase in this index reflected both the drop in energy prices and a resumption of rapid declines for prices of investment goods, especially computers, following a period of unusual firmness in 2000. The price index for GDP—the broadest price measure for domestically *produced* goods and services—posted a smaller deceleration of about ½ percentage point between 2000 and 2001 because lower oil prices have a smaller weight in U.S. production than in U.S. purchases.

Consumer energy prices continued to move higher through the early months of 2001 before turning down sharply in the second half of the year. Despite the fact that crude oil prices were declining over the first half of the year, retail gasoline prices increased at an annual rate of 8 percent during that period. The sizable increase in margins on gasoline reflected both refinery disruptions and low inventory levels going into the summer driving season. But gasoline prices fell sharply thereafter as refineries came back on line, imports of gasoline picked up, and crude oil prices moved considerably lower over the latter half of the year. In all, gasoline prices were down 19 percent over the year as a whole. Heating oil prices reflected

Change in consumer prices



Change in consumer prices excluding food and energy



crude oil developments more directly and declined sharply through most of the year. Meanwhile, spot prices of natural gas peaked in January 2001 at the extraordinarily high level of nearly $10 per million BTUs, and prices at the consumer level continued to surge in the first few months of the year. These increases reflected the pressure from ongoing strength in demand coupled with unusually cold weather early last winter that left stocks at very low levels. But the situation improved as expanded supply allowed stocks to be replenished: Spot prices reversed those earlier increases, and prices of consumer natural gas declined substantially through the rest of the year.

In contrast, electricity prices rose through most of last year. The increases reflected the effects of the earlier rises in the prices of natural gas and coal on fuel costs of utilities as well as problems with electricity generation in California. California was able to avoid serious power disruptions last summer because high electricity prices, weak economic activity, and moderate weather all helped keep demand in check.

Consumer food prices increased more rapidly last year, rising about 3 percent after having risen only 2½ percent in 2000. Early in the year, strong demand, both domestic and foreign, led to large increases in livestock prices—especially beef. But these prices softened later in the year under the influence of higher supplies, lower domestic demand, and foreign outbreaks of mad cow disease, which apparently damped demand for beef no matter where produced.

Alternative measures of price change
Percent

Price measure	2000	2001
Chain-type		
Gross domestic product	2.4	1.8
Gross domestic purchases	2.5	1.1
Personal consumption expenditures	2.6	1.3
Excluding food and energy	1.9	1.6
Fixed-weight		
Consumer price index	3.4	1.9
Excluding food and energy	2.5	2.7

NOTE. Changes are based on quarterly averages and are measured to the fourth quarter of the year indicated from the fourth quarter of the preceding year.

Excluding food and energy items, PCE prices rose 1.6 percent last year, a small deceleration from its 1.9 percent increase over 2000. That deceleration was concentrated in prices of goods, with prices especially soft for motor vehicles and apparel. By contrast, prices of many services continued to accelerate last year. In particular, shelter costs—which include residential rent, the imputed rent of owner-occupied housing, and hotel and motel prices—increased 4¼ percent last year after having risen 3½ percent in 2000.

Standing somewhat in contrast to the small deceleration in core PCE prices, the core consumer price index (CPI) increased 2¾ percent last year, about the same rate as in 2000. Although components of the CPI are key inputs of the PCE price index, the two price measures differ in a variety of ways. One important difference is that the PCE measure is broader in scope; it includes expenditures made by nonprofit institutions and consumption of items such as checking services that banks provide without explicit charge. Prices for the PCE categories that are outside the scope of the CPI decelerated notably in 2001 and accounted for much of the differential movements of inflation measured by the two price indexes. Another difference is that the CPI places a larger weight on housing than does the PCE price index, and last year's acceleration of housing prices therefore boosted the CPI relative to the PCE measure.

The leveling off or decline in core consumer price inflation reflects a variety of factors, including the weakening of economic activity and the accompanying slackening of resource utilization; the decline in energy prices that reduced firms' costs; and continuing intense competitive pressures in product markets. These factors also likely helped to reduce inflation expectations late last year, and this reduction itself may be contributing to lower inflation. According to the Michigan SRC, median one-year inflation expectations, which had held near 3 percent through 2000 and into last summer, moved down to 2¾ percent in the third quarter and plummeted to 1 percent or lower in October and November. Falling energy prices and widespread reports of discounting following the September 11 attacks likely played a role in causing this sharp break in expectations. Part of this drop was reversed in December, and since then, inflation expectations have remained around 2 percent—a rate still well below the levels that had prevailed earlier.

Meanwhile, the Michigan SRC's measure of longer-term inflation expectations, which had also remained close to 3 percent through 2000 and the first half of 2001, ticked down to 2¾ percent in October and stood at that level early this year.

U.S. Financial Markets

As a consequence of the Federal Reserve's aggressive easing of the stance of monetary policy in 2001, interest rates on short- and intermediate-term Treasury securities fell substantially over the course of the year. Longer-term Treasury bond yields, however, ended the year about unchanged, on balance. These rates had already fallen appreciably in late 2000 in anticipation of monetary policy easing. They may also have been held up last year by an increased likelihood of federal budget deficits and, except in the immediate aftermath of the terrorist attacks, by investors' optimism about future economic prospects. Despite this optimism, the slowdown in final demand, a slump in corporate earnings, and a marked deterioration in credit quality of businesses in a number of sectors made investors more wary about risk. Although interest rates on higher-rated investment-grade corporate bonds generally moved in line with those on comparably dated government securities, lower-rated firms found credit to be considerably more expensive, as risk spreads on speculative-grade debt soared for most of the year before narrowing somewhat over the last few months. Interest rates on commercial paper and business loans fell last year by about as much as the federal funds rate, but risk spreads generally remained in the elevated range. In addition, commercial banks tightened standards and terms for business borrowers throughout the year. Equity prices were exceptionally volatile and fell further, on balance, in 2001.

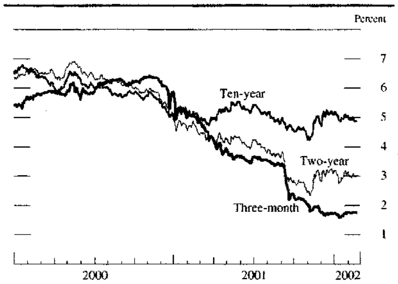
Increased caution on the part of lenders did not appear to materially damp aggregate credit flows. Private borrowing was robust last year, especially when compared with the marked slowing in nominal spending. Relatively low long-term interest rates encouraged both businesses and households to concentrate borrowing in longer-term instruments, thereby locking in lower debt-service obligations. The proceeds of long-term borrowing were also used to strengthen balance sheets by building stocks of liquid assets. A shift toward safer and more liquid asset holdings showed through in rapid growth of M2, which was spurred further by reduced short-term market interest rates and elevated stock market volatility.

Interest Rates

Short-term market interest rates moved down with the FOMC's cumulative cut in the target federal funds rate of 4¼ percentage points, and yields on intermediate-term Treasury securities declined almost 2 percentage points. Longer-term interest rates had already fallen in the latter part of 2000, when investors began to anticipate significant policy easing in response to weakening economic growth. As the FOMC aggressively eased the stance of monetary policy during the winter and spring, investors' expectations of a prompt revival in economic activity took hold and were manifested in a sharp upward tilt of money market futures rates and an appreciable rise in longer-term interest rates over the second quarter. However, signs of the anticipated economic turnaround failed to materialize as the summer progressed. Indeed, the weakening in economic activity was becoming more widespread, which prompted expectations of further monetary policy easing over the near term, and longer-term interest rates turned down again.

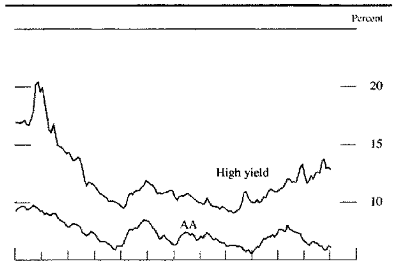
The terrorist attacks of September 11 dramatically redrew the picture of the nation's near-term economic prospects. Market participants lowered markedly their expected trajectory for the path of the federal funds rate in the immediate aftermath of the attacks, and revisions to policy expectations, combined with considerable flight-to-safety demands, cut short- and intermediate-term Treasury yields substantially over subsequent days. The FOMC, confronted with evidence of additional weakness in final demand and prices, eased policy further over the balance of the year, and short-term market interest rates continued to decline. In early November, however, intermediate- and long-term interest rates turned up,

Rates on selected Treasury securities



Note. The data are daily and extend through February 21, 2002.

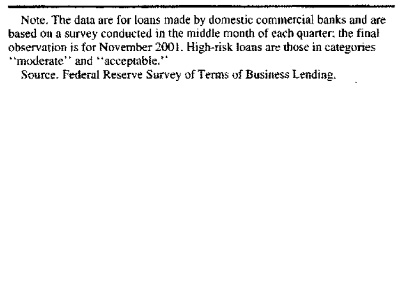
Corporate bond yields



Note. The data are monthly averages and extend through January 2002. The AA rate is calculated from bonds in the Merrill Lynch AA index with seven to ten years remaining maturity. The high-yield rate is the yield on the Merrill Lynch 175 high-yield index.

as it became apparent that the economic fallout from the attacks would be more limited than some had originally feared, and as military success in Afghanistan bolstered investors' confidence and moderated safe-haven demands. By the end of the year, yields on intermediate-term Treasury securities had reversed about half of their post–September 11 decline, while yields on longer-term Treasury securities had risen enough to top their pre-attack levels. In early 2002, however, yields on intermediate- and longer-term Treasuries edged down again, as market participants trimmed their expectations for the strength of the economic rebound, and the Congress failed to move forward with additional fiscal stimulus.

Spread of average business loan rate over the intended federal funds rate



Note. The data are for loans made by domestic commercial banks and are based on a survey conducted in the middle month of each quarter; the final observation is for November 2001. High-risk loans are those in categories "moderate" and "acceptable."
Source. Federal Reserve Survey of Terms of Business Lending.

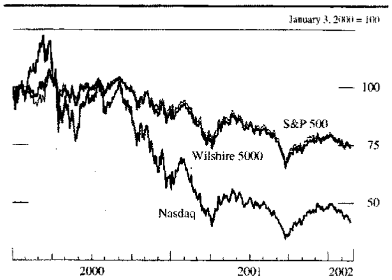
Yields on higher quality investment-grade corporate bonds generally followed those on comparably dated Treasury securities last year, although risk spreads widened moderately before narrowing over the last few months. In contrast, interest rates on speculative-grade corporate debt increased steadily in 2001, as risk spreads ballooned in response to mounting signs of financial distress among weaker firms. Even with a considerable narrowing over the final two months of the year, risk spreads on below-investment-grade bonds remained quite wide. Spreads for high-yield bonds edged down further in 2002 after rising sharply in early January, when several important technology and telecommunications companies revised down their earnings forecasts or released corrections to past earnings statements. Interest rates on commercial and industrial (C&I) loans at banks fell last year by about as much as the federal funds rate. According to the Federal Reserve's quarterly Survey of Terms of Business Lending, the spread over the target federal funds rate of the average interest rate on C&I loans varied somewhat over the year, falling for a while then rising sharply between August and November; nonetheless, it has generally remained in the elevated range that has persisted since late 1998. The same survey also indicated that over the course of last year commercial banks, like other lenders, have become especially cautious about lending to marginal credits, as indicated by the average spread on riskier C&I loans not made under a previous commitment, which soared in 2001.

Equity Markets

The exceptional volatility of equity prices in 2001 likely reflected the dramatic fluctuations in investors' assessment of the outlook for the economy and corporate earnings. Share prices tumbled early last year, as pessimism and uncertainty about the direction of the economy were intensified by a spate of negative earnings announcements and profit warnings in February and March. The pronounced sell-off of equities came to a halt at the end of the first quarter, with the Wilshire 5000—a very broad index of stock prices—down about 13 percent, while the tech-heavy Nasdaq ended the first quarter at its lowest level since 1998 and more than 60 percent below its record high reached in March of 2000.

Companies, especially in the technology sector, reported weak profits for the first quarter, but their announcements generally surpassed analysts' sharply lowered expectations. With the 1 percentage point

Major stock price indexes



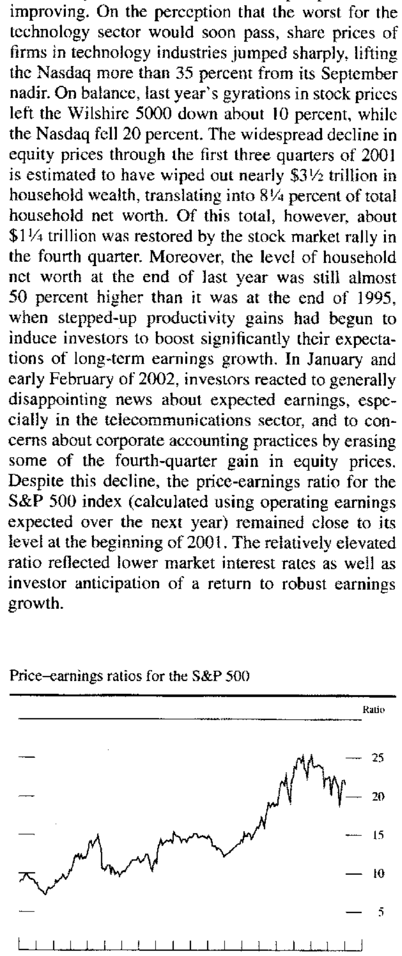
Note. The data are daily and extend through February 21, 2002.

reduction in the federal funds rate over March and April, investors became more confident that an improvement in economic conditions was in train, and equity prices rallied; the rebound was particularly strong for technology companies—the Nasdaq rose almost 40 percent between April and the end of May. The forward momentum in equity markets was checked in June, however, in part because analysts slashed their estimates for near-term corporate earnings growth. Although the stock market initially proved resilient in the face of the bleak profit news, suggesting that weak earnings had been largely anticipated by investors, the steady barrage of dismal economic news—particularly in the technology and telecommunications sectors—started to exert downward pressure on share prices by early August. The slide in stock prices intensified in early September, with technology stocks taking an exceptional drubbing. By September 10, the Wilshire 5000 was down almost 10 percent from the end of July, while the Nasdaq had lost more than 16 percent.

The attacks on September 11, a Tuesday, caused stock markets to shut down and to remain closed for the rest of that week. Trading resumed in an orderly fashion on Monday, September 17, but the day ended with the market as a whole down about 5 percent—with airline and hotel stocks pounded most—and trading volume on the New York Stock Exchange hitting a record high. Major stock price indexes, which sagged further in subsequent days and weeks, were weighed down by investors' more pessimistic evaluation of the near-term economic outlook and by sizable downward revisions to analysts' earnings projections for the rest of 2001. By the third week of the month, broad stock price indexes had fallen a total of 12 percent from their levels on September 10.

In late September, stock prices staged a comeback that lasted through the fourth quarter, as incoming information suggested that the economy had proven remarkably resilient and economic prospects were improving. On the perception that the worst for the technology sector would soon pass, share prices of firms in technology industries jumped sharply, lifting the Nasdaq more than 35 percent from its September nadir. On balance, last year's gyrations in stock prices left the Wilshire 5000 down about 10 percent, while the Nasdaq fell 20 percent. The widespread decline in equity prices through the first three quarters of 2001 is estimated to have wiped out nearly $3½ trillion in household wealth, translating into 8¼ percent of total household net worth. Of this total, however, about $1¼ trillion was restored by the stock market rally in the fourth quarter. Moreover, the level of household net worth at the end of last year was still almost 50 percent higher than it was at the end of 1995, when stepped-up productivity gains had begun to induce investors to boost significantly their expectations of long-term earnings growth. In January and early February of 2002, investors reacted to generally disappointing news about expected earnings, especially in the telecommunications sector, and to concerns about corporate accounting practices by erasing some of the fourth-quarter gain in equity prices. Despite this decline, the price-earnings ratio for the S&P 500 index (calculated using operating earnings expected over the next year) remained close to its level at the beginning of 2001. The relatively elevated ratio reflected lower market interest rates as well as investor anticipation of a return to robust earnings growth.

Price-earnings ratios for the S&P 500

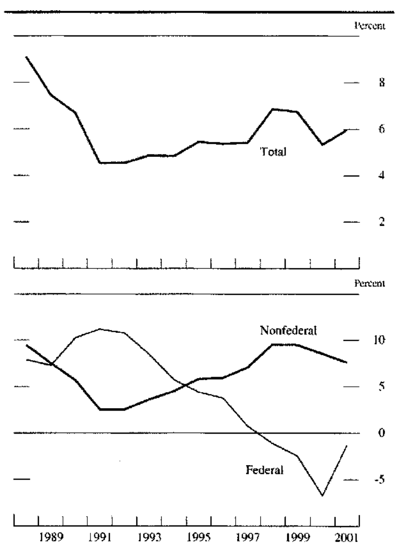


Note. The data are monthly and extend through January 2002. The ratios are based on I/B/E/S consensus estimates of earnings over the coming twelve months.

Debt and Depository Intermediation

The growth of the debt of nonfederal sectors was strong over the first half of the year, as the decline in longer-term interest rates during the final months of 2000 prompted some opportunistic tapping of bond markets by businesses and helped keep the expansion of household credit brisk. However, the combination of a stepdown in the growth of consumer durables purchases, a further drop in capital expenditures, and a substantial inventory liquidation over the second half of the year resulted in a significantly slower pace of private borrowing. On balance, growth of nonfederal debt retreated about 1 percentage point in 2001, to 7½ percent. Federal debt continued to contract early last year; it then turned up as the budget fell into a deficit reflecting the implementation of the tax cut, the effect of the weaker economy on tax receipts, and emergency spending in the wake of the terrorist attacks. As a result, the federal government paid down only 1¼ percent of its debt, on net, over 2001, compared with 6¾ percent in the previous year. With nominal GDP decelerating sharply, the ratio of nonfinancial debt to GDP moved up notably in 2001, more than reversing its decrease in the previous year.

Growth of nonfinancial debt

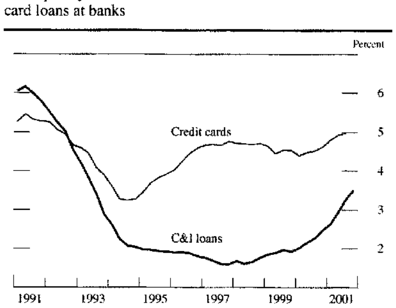


Note. The data are monthly. Annual growth rates are computed from fourth-quarter averages. Domestic nonfinancial debt consists of the outstanding credit market debt of governments, households, nonprofit organizations, nonfinancial businesses, and farms.

The economic slowdown and the decline in market interest rates last year left a noticeable imprint on the composition of financial flows, with borrowing by businesses and households migrating toward longer-term bond and mortgage markets. As a consequence, credit at depository institutions expanded sluggishly over the year. Growth of loans at commercial banks dropped off sharply, from 12 percent in 2000 to 2¼ percent in 2001. The slowdown in total bank credit—after adjustments for mark-to-market accounting rules—was less severe, because banks acquired securities, largely mortgage-backed securities, at a brisk pace throughout the year. A healthy banking sector served as an important safety valve for several weeks after September 11, as businesses tapped backup lines of credit to overcome problems associated with the repayment of maturing commercial paper and issuance of new paper. Moreover, with payment flows temporarily interrupted by the terrorist attacks, a substantial volume of overdrafts was created, causing a spike in the "other" loan category that includes loans to depository institutions. By the end of October, however, the disruptions to business financing patterns and payment systems that bloated bank balance sheets had largely dissipated, and loans contracted sharply.

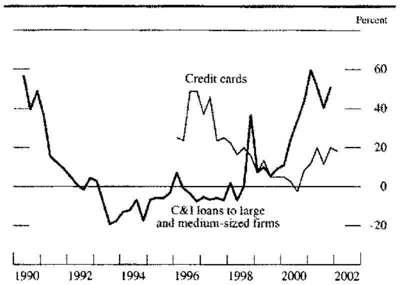
Commercial banks reported a marked deterioration in loan performance last year. Delinquency and charge-off rates on C&I loans trended up appreciably, although they remained well below rates recorded during the 1990-91 recession. Delinquency rates on credit card accounts increased for the second year in

Delinquency rates on commercial and industrial and credit card loans at banks



Note. The data, from bank Call Reports, are quarterly, seasonally adjusted and extend through 2001:Q3.

Net percentage of domestic banks tightening standards on credit card and selected commercial and industrial loans



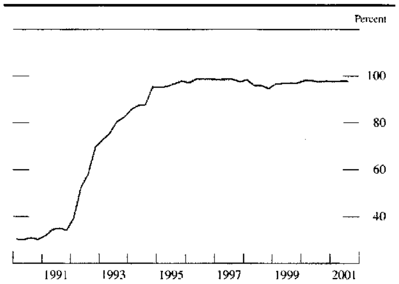
Note. The data extend through January 2002 and are based on a survey generally conducted four times per year. Large and medium-sized firms are those with annual sales of $50 million or more. Net percentage is percentage reporting a tightening less percentage reporting an easing.

Source. Federal Reserve Senior Loan Officer Opinion Survey on Bank Lending Practices.

a row, reaching 5 percent for the first time since early 1992. Banks responded to the deteriorating business and household balance sheets by tightening credit standards and terms for both types of loan, according to the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices. Banks indicated that they had tightened business lending policies in response to greater uncertainty about the economic outlook and their reduced tolerance for risk. Similarly, the net fractions of banks reporting that they had tightened standards for both credit card and other consumer loans rose markedly over the first half of last year. As household financial conditions continued to slip, the net proportion of banks that tightened standards on consumer loans remained at an elevated level in the second half of the year.

In response to rising levels of delinquent and charged-off loans, commercial banks significantly boosted the rate of provisioning for loan losses last year, which, along with reduced income from capital market activities, cut into the banking sector's profits. Nonetheless, through the third quarter of 2001—the latest period for which Call Report data are available—measures of industry profitability remained near the elevated range recorded for the past several years, and banks continued to hold substantial capital to absorb losses. Indeed, virtually all assets were at well-capitalized banks at the end of the third quarter, and the substitution of securities for loans on banks' balance sheets also helped edge up risk-based capital ratios. In the fourth quarter, a number of large banks saw their profits decline further because of their

Percent of all U.S. commercial bank assets at well-capitalized banks



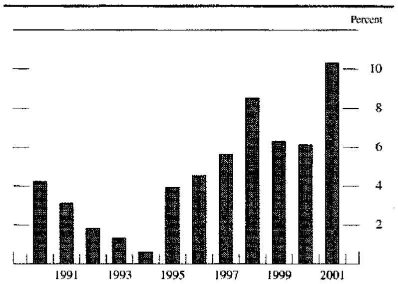
Note. The data are quarterly and extend through 2001:Q3. Capital status is determined using the regulatory standards for the leverage, tier 1, and total capital ratios.

exposure to Enron and, to a lesser extent, Argentina. On the positive side, wider net interest margins helped support profits throughout 2001.

The Monetary Aggregates

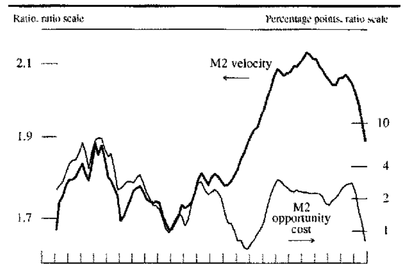
The broad monetary aggregates grew very rapidly in 2001. Over the four quarters of the year, M2 increased 10¼ percent, a rate significantly above the pace of the past several years. Because the rates of return provided by many components of M2 move sluggishly, the swift decline in short-term market interest rates last year significantly lowered the opportunity cost of holding M2 assets, especially for

M2 growth rate



Note. M2 consists of currency, travelers checks, demand deposits, other checkable deposits, savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds. Annual growth rates are computed from fourth-quarter averages.

M2 velocity and opportunity cost

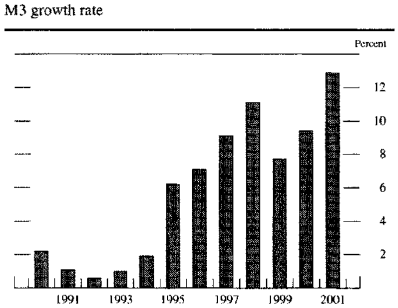


Note. The data are quarterly. The velocity of M2 is the ratio of nominal gross domestic product to the stock of M2. The opportunity cost of holding M2 is a two-quarter moving average of the difference between the three-month Treasury bill rate and the weighted average return on assets included in M2.

its liquid deposits (the sum of checking and savings accounts) and retail money funds components. Moreover, negative returns and elevated volatility in equity markets likely raised household demand for M2 assets through the fall. An unprecedented level of mortgage refinancing activity (which results in prepayments that temporarily accumulate in deposit accounts before being distributed to investors in mortgage-backed securities), as well as increased foreign demand for U.S. currency, also bolstered the growth of M2 over the course of the year.

Involuntary accumulation of liquid deposits resulting from payment system disruptions after the terrorist attacks, combined with elevated safe-haven demands, caused M2 to surge temporarily in the weeks following September 11. At the same time,

M3 growth rate



Note. M3 consists of M2 plus large-denomination time deposits, balances in institutional money market funds, repurchase-agreement liabilities (overnight and term), and eurodollars (overnight and term). Annual growth rates are computed from fourth-quarter averages.

plunging equity prices led to a sharp step-up in the growth of retail money market mutual funds. After a substantial unwinding of distortions to money flows in October, M2 growth over the balance of the year was spurred by further declines in its opportunity cost resulting from additional monetary policy easings and by heightened volatility in equity markets. The hefty advance in M2 last year outpaced the anemic expansion of nominal income, and M2 velocity—the ratio of nominal GDP to M2—posted a record decline.

M3—the broadest monetary aggregate—grew 13 percent over 2001. In addition to the surge in its M2 component, huge inflows into institutional money funds boosted M3 growth. Investors' appetite for these instruments was enormous last year because their returns were unusually attractive as they lagged the steep decline in market interest rates. The slowdown in the growth of bank credit over the summer, which resulted in a contraction in managed liabilities, damped the rise in M3 somewhat. The velocity of M3 dropped for the seventh year in the row, to a record low.

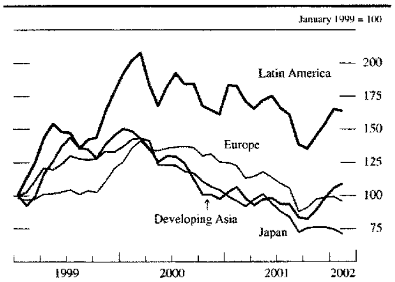
International Developments

Economic activity in foreign economies weakened substantially in 2001. Early in the year, activity abroad was depressed by high oil prices, the global slump in the high-tech sector, and spillover from the U.S. economic slowdown. The September terrorist attacks further heightened economic uncertainty. On average, foreign economic activity was about flat over the year. The weakest performer among industrial economies was Japan, where output declined. The euro area eked out a slight increase in its real GDP. Activity in most emerging market economies in both Asia and Latin America declined. Asian developing economies were particularly hard hit by the falloff in demand for their high-tech exports. In Latin America, the output decline in Mexico largely reflected sharply reduced export demand from the United States; Argentina's financial crisis precipitated a further sharp drop in output in that country. An easing of average foreign inflation reflected the weakness of activity as well as a net decline in global oil prices over the course of the year.

In response to the pronounced weakness in economic activity, monetary authorities in the major industrial countries eased policy throughout the year. Nevertheless, interest rates on long-term government securities showed little net change from the beginning to the end of the year in most major industrial countries. Weak economic conditions tended to put downward pressure on long-term rates, but moves toward more stimulative macroeconomic policies appeared to encourage market participants to expect economic recovery, thereby supporting long-term interest rates. Following the terrorist attacks in September, interest rates declined around the globe as expected economic activity weakened and demand shifted away from equities and toward the relative safety of bonds. However, toward year-end, as the period of crisis passed, long-term interest rates rebounded strongly.

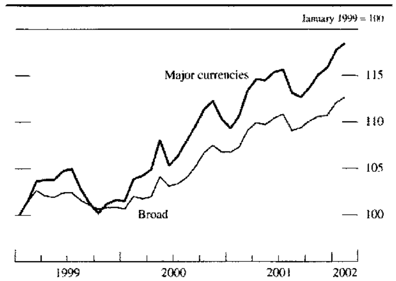
Overall stock indexes in foreign industrial economies declined for the second consecutive year as activity faltered and actual and projected corporate earnings fell sharply. Technology-oriented stock indexes again fell more than the overall indexes. Among emerging market economies, the performance of stocks was mixed; stock indexes in several Asian emerging market economies rebounded strongly late in the year, a move possibly reflecting market participants' hopes for a revival in global demand for the high technology products that feature prominently in these countries' exports. Argentine financial markets came under increasing pressure throughout the year because of growing fears of a debt default and the end of the peso's peg to the dollar. Near year-end, Argentine authorities in fact suspended debt payments to the private sector and, early in 2002, ended the one-to-one peg to the dollar. There was limited negative spillover to other emerging financial markets from the sharp deterioration in Argentina's economic and financial condition, in contrast to the situation that prevailed during other emerging market financial crises of recent years.

Foreign equity indexes



Note. The data are monthly. The last observations are the average of trading days through February 21, 2002.

Nominal U.S. dollar exchange rate indexes



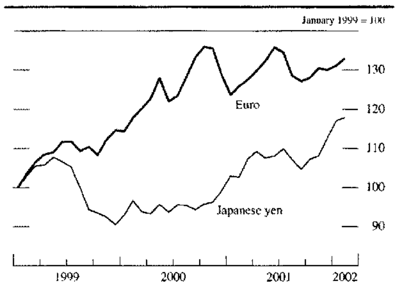
Note. The data are monthly. Indexes are trade-weighted averages of the exchange value of the dollar against major currencies and against the currencies of a broader group of important U.S. trading partners. Last observations are the average of trading days through February 21, 2002.

The dollar's average foreign exchange value remained strong through most of 2001. The dollar continued to rise despite mounting evidence of weakening U.S. economic activity and the significant easing of monetary policy by the FOMC. Market participants may have felt that the falloff in economic growth in foreign economies and expectations that the United States offered stronger prospects for economic growth in the future outweighed disappointing U.S. economic performance in the near term. The dollar's average foreign exchange value against the currencies of other major industrial countries recorded a net increase of 8 percent over 2001 as a whole. The dollar also strengthened, but by a lesser amount, against the currencies of our most important developing country trading partners. So far this year, the dollar's average value has risen further on balance.

Industrial Economies

The dollar showed particular strength against the Japanese yen last year, appreciating nearly 15 percent. The weakness of the yen reflected serious ongoing structural problems and the relapse of the Japanese economy back into recession. Early in the year, in response to signs of renewed weakening of the economy, the Bank of Japan announced that it was easing policy by shifting its operating target from the overnight rate—already not far above zero—to balances held by financial institutions at the Bank of Japan. Policy was eased further and more liquidity was injected into the banking system when the balances target was raised three times later in the year.

U.S. dollar exchange rate against the euro
and the Japanese yen



NOTE. The data are monthly. Exchange rates are in foreign currency units per dollar. Last observations are the average of trading days through February 21, 2002.

The yen received a temporary boost when Junichiro Koizumi, widely seen as more likely to introduce economic reforms, became prime minister in April. The yen again strengthened in the immediate wake of the September terrorist attacks, prompting the Bank of Japan to make substantial intervention sales of yen. However, later in the year, amid signs of a renewed deterioration of economic conditions, the yen again started to weaken significantly.

For the year as a whole, Japanese real GDP is estimated to have declined more than 1 percent, a reversal of the rebound recorded the previous year. Private investment declined and private consumption moved lower, as households curtailed spending in the face of rising unemployment and falling real income. The winding-down of the large-scale public works programs of recent years more than offset the effect on growth from the additional spending contained in several supplemental budgets. Last year marked the third consecutive year of deflation, with the prices of both consumer goods and real estate continuing to move lower.

The dollar's movements against the euro in 2001 appear to have been mainly influenced by market perceptions of the strength of economic activity in the United States relative to that in the euro area. In the early part of the year, the euro weakened as evidence mounted that the economic slowdown that was already apparent in the United States as the year began was also taking hold in Europe. During the summer, the euro rose against the dollar as market participants appeared to revise downward their expectation of an early U.S. recovery. Then, later in the year, with more signs of a further weakening of activity in Europe, the euro again declined. On balance, the dollar appreciated more than 5 percent relative to the euro over the course of the year. Real GDP in the euro area is estimated to have increased at less than a 1 percent rate in 2001, a sharp slowing from the nearly 3 percent growth rate of the previous year. Fixed investment and inventory investment both are estimated to have made negative contributions to the growth of real GDP, whereas consumption growth remained near the rate of the previous year. The slowing of growth in the euro area was not uniform across countries, with weakness being more pronounced in Germany and less so in France.

The European Central Bank (ECB) held off easing monetary policy in the early months of the year, restrained by the euro's weakness, growth of M3 that remained in excess of the ECB's reference value, and a euro-area inflation rate above its 2 percent target ceiling. In May, evidence of slowing activity prompted the ECB to reduce its key policy rate 25 basis points. Three additional reductions followed later in the year, as activity weakened further and the inflation rate receded toward its target ceiling. The total reduction in the ECB's key policy rate over the course of the year was 150 basis points. The beginning of 2002 saw the introduction of euro notes and coins, a process that proceeded smoothly.

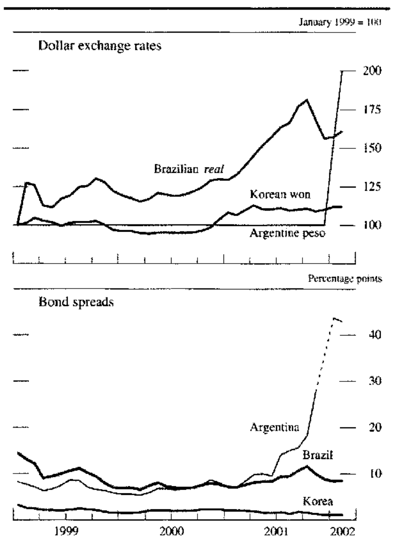
The dollar appreciated 6 percent against the Canadian dollar in 2001 as the Canadian economy slowed abruptly. Real GDP in Canada is estimated to have been about flat last year after growing more than 3 percent in 2000. A key factor in this slowing was the sharp drop-off in Canadian exports to the United States. An inventory correction also depressed output. Earlier in the year, consumption was buoyed by continued employment growth, tax cuts, and a housing boom. However, later in the year, growth of consumption faltered as employment prospects worsened and asset prices weakened. The Bank of Canada has moved aggressively to counter the slowing of economic activity by lowering its key policy interest rate nine times in 2001 and once in January 2002 for a cumulative total of 375 basis points.[3] When the Bank of Canada initiated easing moves early in 2001, inflation was slightly above the Bank's target range of 1 percent to 3 percent; but by the end of the year, slack activity and falling energy prices had pushed the inflation rate down to near the bottom of the range.

3. Among these reductions was one on September 17, when the Bank of Canada (along with the ECB) announced a reduction of its policy rate by 50 basis points, following the 50 basis point reduction in the federal funds rate announced by the FOMC earlier in the day.

Emerging Market Economies

Argentina was a main focus of attention among emerging market economies in 2001. In the first part of the year, worse-than-expected data on the fiscal situation and concerns that the government would be unable to implement announced fiscal measures heightened doubts about whether Argentina would be able to avoid a default on its debt. Argentine financial markets received only temporary support from a large-scale debt exchange completed in June and an enhancement of IMF support approved in September. With financial market confidence eroding, conditions took a dramatic turn for the worse late in the year; financial asset prices fell sharply, and funds moved out of the banking system as the government moved to restructure its debt and the one-to-one peg to the dollar looked increasingly precarious. In early December, the government imposed capital controls, including limits on bank account withdrawals. These restrictions led to widespread protests, which triggered the resignation of President de la Rua and an interval of political turmoil. After the resignation of President de la Rua, the government announced it would suspend debt payments to the private sector. The government of the new president, Eduardo Duhalde, suspended Argentina's currency board arrangement and established a temporary dual exchange rate system. In early February, the dual exchange rate system was abandoned, and the peso's floating rate moved to about 2 pesos per dollar amid continuing economic uncertainty. For 2001 as a whole, Argentine real GDP is estimated to have fallen at well over a 5 percent rate, and prices declined further.

Selected emerging markets



Note. The data are monthly. Exchange rates are in foreign currency units per dollar. As of January 2002, the Argentine peso rate is the floating rate. Bond spreads are the J.P. Morgan Emerging Market Bond Index (stripped Brady-bond) spreads over U.S. Treasuries: the dotted line is a break in the series for Argentina in December 2001. Last observations are the average of trading days through February 21, 2002.

To date, the negative spillover from events in Argentina to other emerging financial markets has been limited, possibly because market participants had been well aware of Argentina's problems for some time and viewed them as largely confined to that country. Brazil was probably most heavily affected by events in Argentina, and the bond spread on Brazilian debt showed a net increase of about 110 basis points over the course of last year while the spread on Argentina debt exploded upward. Other important factors weighing on Brazilian economic activity last year likely were weak growth in the United States—Brazil's most important export market—and the emergence of an energy shortage as drought limited hydroelectric output. For the year as a whole, Brazilian real GDP is estimated to have risen at less than a 1 percent rate after growing at a 4 percent rate the previous two years. The Brazilian currency registered a net depreciation against the dollar of about 16 percent over the course of last year, while stock prices declined more than 10 percent. The Brazilian central bank tightened policy last year in an effort to hold down the inflationary impact of currency depreciation.

Real GDP in Mexico declined about 1 percent in 2001, a sharp reversal from the 5 percent growth rates recorded in the previous two years. The falloff in activity was mainly a reflection of the negative effects on direct trade and confidence in Mexico arising from the slowdown of the U.S. economy. In light of the marked weakening of activity, declining inflation, and a strong peso, the Bank of Mexico started to loosen the stance of monetary policy in May, and short-term interest rates continued to decline over the rest of the year. In February 2002, the Bank of Mexico moved to tighten monetary conditions, citing concerns that an increase in administered prices would raise inflation. Mexican financial markets fared quite well last year, with the peso appreciating 5 percent against the dollar and stock prices rising nearly 15 percent. The effect on Mexican financial markets from Argentina's difficulties appeared to have been quite limited, as indicated by the net decline of the Mexican debt spread by 80 basis points over the course of the year.

Economic growth in the Asian emerging market economies turned negative last year. On average, real GDP in developing Asia is estimated to have declined about 1 percent in 2001, compared with average growth of 6 percent in the previous year. A key factor in this slowing was the sharp falloff in global demand for the high-tech products that had fueled rapid export growth in the region in recent years.

The economies of Taiwan, Singapore, and Malaysia are highly dependent on exports of semiconductors and other high-tech products, and as global demand for these goods was cut back sharply, real GDP in these countries declined by an estimated 5 percent on average last year. Indonesia and Thailand, both relatively less dependent on high-tech exports and experiencing some reduction in political tension over the course of the year, managed to record small positive real GDP growth rates last year, albeit well below rates of the previous year.

Korean real GDP is estimated to have increased about 2 percent in 2001. While in an absolute sense Korea is an important exporter of high-tech products such as semiconductors, it has a relatively more diversified economy than most of its Asian neighbors, and thus the magnitude of its slowdown last year was somewhat muted. Government moves toward monetary and fiscal policy stimulus over the course of the year helped support domestic demand in Korea.

In China, recorded growth of real GDP remained robust last year. China's lesser dependency on exports in general, and high-tech exports in particular, cushioned it from last year's global slowdown, and the government stepped up the pace of fiscal stimulus to offset weakening private demand. Hong Kong, with exports not heavily concentrated in high-tech goods and an economy closely integrated with a rapidly growing Chinese economy, is nevertheless estimated to have experienced a decline in real GDP last year. The peg of Hong Kong's currency to a strengthening U.S. dollar put pressure on its competitive position, and domestic price deflation continued.

Conditions in financial markets in emerging Asia were, for the most part, not particularly volatile last year. Debt spreads were little changed on average for the region as a whole, exchange rates against the dollar generally moved lower, and stock indexes declined somewhat on average.